DOCUMENT RESUME

ED 076 826 VT 020 208

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TITLE	A Selected List of Educational Material Available from Commerce and Industry.
INSTITUTION	New York State Education Dept., Albany. Office of Occupational Education.; State Univ. of New York, Ithaca. Cornell Inst. for Research and Development in Occupational Education.
PUB DATE	[72]
NOTE	99p.
AVAILABLE FROM	Instructional Materials Service, Stone Hall, Cornell University, Ithaca, N.Y. 14850 ($2.00)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Agricultural Education; Audiovisual Aids; Autoinstructional Aids; *Data Sheets; *Instructional Aids; *Instructional Materials; Manuals; Publications; *Resource Guides; *Resource Materials; Technical Education

ABSTRACT

This publication is designed to assist teachers of agricultural and technical education in identifying and locating some of the instructional aids available from commerce and industry. Although most of the items listed are intended to support and add variety to the customary teaching resources, some could serve as major student references. The publication contains descriptive listings of products available from approximately 70 organizations responding to a request for educational materials information. The materials include books, kits, manuals, self-study courses, specification sheets, technical bulletins, charts, films, cassettes, transparencies, engines, tools, and various specialty items. The contents are indexed by company name and by subject area. The publication includes information for obtaining the materials listed and for finding out more about educational materials available from commercial companies. (MF)

Sent to you courtesy of
Cornell Institute for Career Education
Stone Hall, Cornell University
Ithaca, New York 14850

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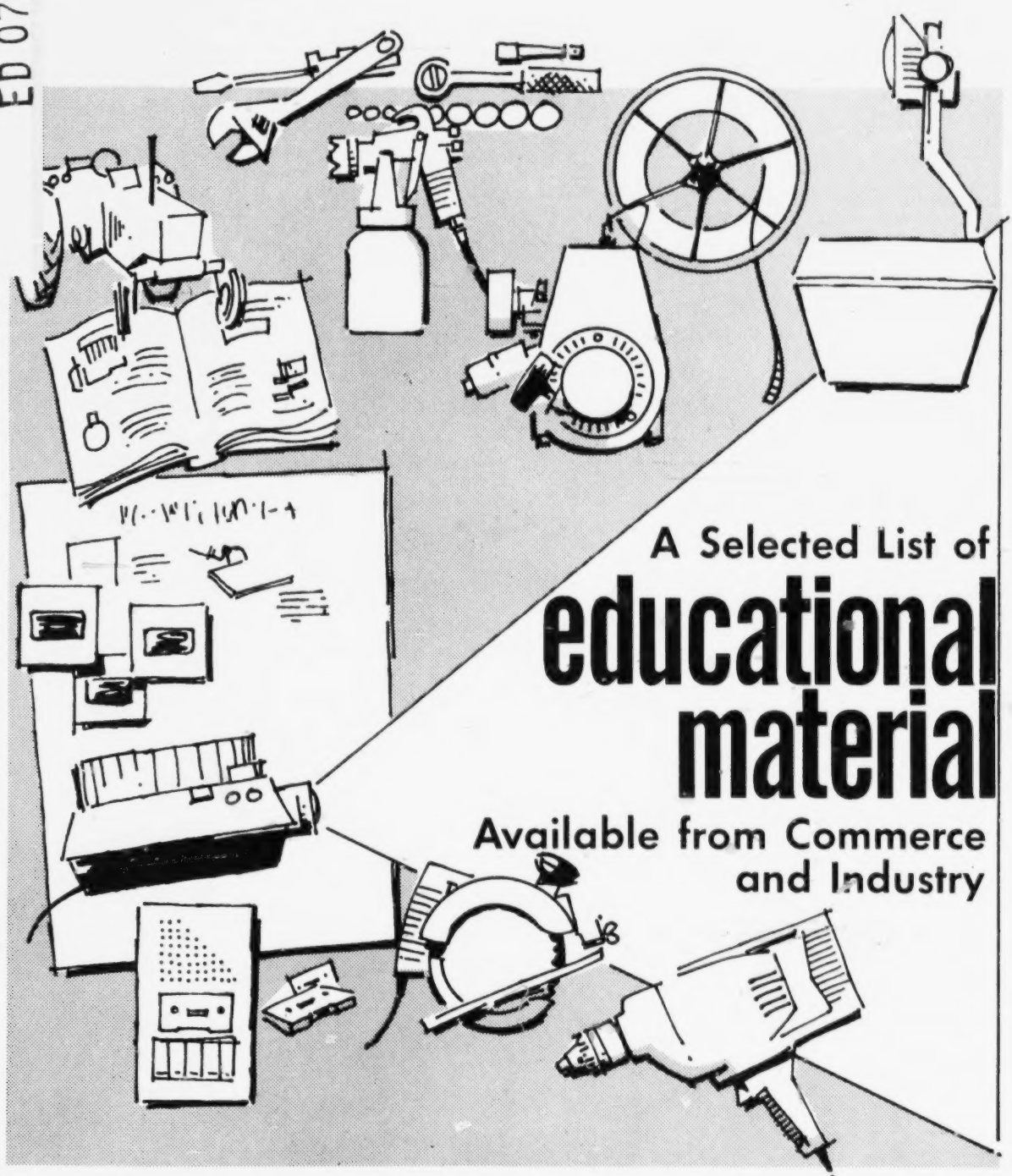

A Selected List of educational material

Available from Commerce and Industry

VT020208

The Institute for Research and Development in Occupational Education
N.Y.S. College of Agriculture and Life Sciences
A Statutory College of the State University
Cornell University, Ithaca, N.Y.

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FOREWORD

The primary purpose of this publication is to alert teachers of Agriculture and Technical Education to the wide variety of instructional aids available from commerce and industry. Although most of the items listed are intended to support and add variety to the customary teaching resources, some could serve as a major student reference.

The publication does not presume to be all inclusive. It does contain descriptive listings of items available from about 70 organizations responding to a request for educational materials information. Teachers who have identified unlisted sources are asked to inform the publishers of their availability in order that this knowledge may be shared with others.

The project was conducted under the auspices of Professor John Wilcox, Director of the Cornell Institute for Research and Development in Occupational Education. Mr. John Deasy, graduate assistant in Education was responsible for the investigation and the preparation of the manuscript. Lyle L. Wicks, Instructional Materials Specialist, served as project coordinator and William I. Lindley, assisted by Mary Kay Uloth, edited and supervised printing arrangements.

The Institute for Research and Development
in Occupational Education
Department of Education
College of Agriculture and Life Sciences
Cornell University
Ithaca, New York 14850

In cooperation with

The Office of Occupational Education
New York State Education Department
Albany, New York

and

The Instructional Materials Service
Department of Education
201 Stone Hall
Cornell University
Ithaca, New York 14850

COMPANY NAME	PAGE NO.	GENERAL			POWER MECHANICS							EQUIPMENT				
		Career Guidance	Safety	Business Management	Small Engines	Gasoline Engines	Diesel Engines	Electric Motors & Controls	Power Trains	Hydraulics	Tires, Steering & Suspension	Field & Crop	Material Handling	Drainage & Irrigat	Engine
Alcoa	4										X				
Amer. Iron & Steel Inst.	4	X										X			
Amer. Petroleum Inst.	5					X	X								X
Amer. Plywood Assoc.	6-10											X			
Amer. Soc. of Agric. Engrs.	5	X													
Autolite	11-12					X	X		X		X				X
Auto. Electric Assoc.	10					X									
Bendix	12					X					X				
Black & Decker	13		X												
Briggs & Stratton	14-15				X										
Brown & Sharpe	16														
J.I. Case	17-18					X	X		X	X		X	X		X
Caterpillar	19		X			X	X		X	X	X	X	X	X	X
Champion	20				X	X						X			
Cincinnati Milacron	21														
Cooper Group	22														
Crane-Deming	20														
Cummins	22		X			X	X								X
Dana	23				X	X	X				X				X

	Diesel Engines	Electric Motors & Controls	Power Trains	Hydraulics	Tires, Steering & Suspension	Field & Crop	Material Handling	Drainage & Irrigation	Forestry & Earth Moving	Horticultural	Power Recreational	Welding	Fasteners	Hand Tools	Painting	Metal Working	Wood Working	Masonry Work	Water Systems	Ventilation	Wiring & Accessories	Design & Construction
	ER MECHANICS					EQUIPMENT						SHOP & MANUAL SKILLS							STRUCTURES				
					X							X	X		X	X			X			X
						X						X	X			X						
X																						
							X				X						X	X				X
X		X		X																		
					X																	
														X								
																X	X					
X		X	X		X	X																
X		X	X	X	X	X		X				X	X			X						
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X																X						
X				X																		

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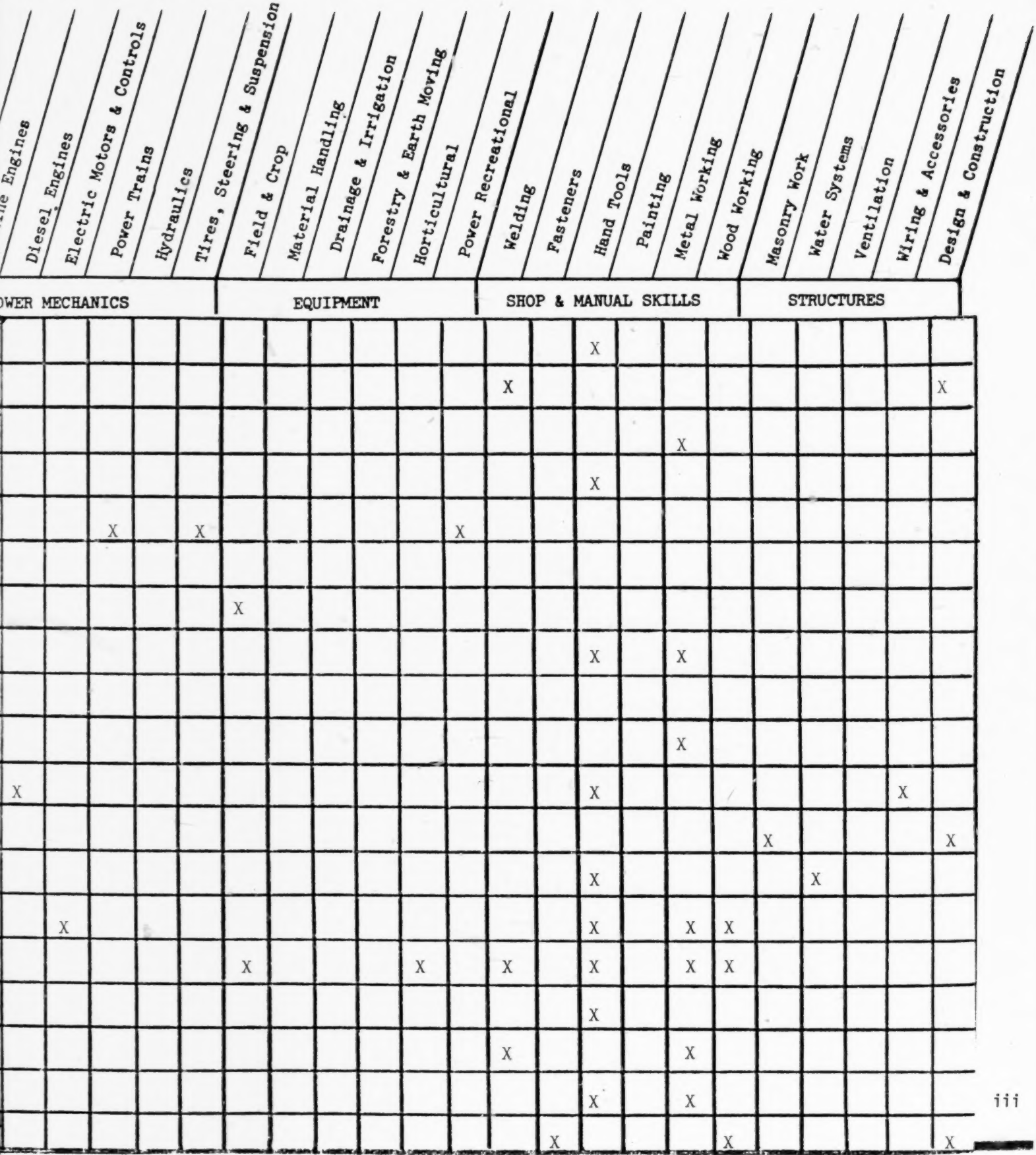
COMPANY NAME	PAGE NO.	GENERAL			POWER MECHANICS							EQUIPMENT				
	SUBJECT MATTER AREAS	Career Guidance	Safety	Business Management	Small Engines	Gasoline Engines	Diesel Engines	Electric Motors & Controls	Power Trains	Hydraulics	Tires, Steering & Suspension	Field & Crop	Material Handling	Drainage & Irrigation	Forestry & Earth	
David Brown	24					X	X		X	X		X				
John Deere	25					X	X		X	X	X	X				
Delco-Remy	26-27					X										
DeVilbiss	28															
Echlin	29					X										
Edison Electric Institute	30-31	X		X				X					X			
ESB Brands	33					X	X									
Ethyl Corporation	32		X			X										
Fafnir Bearings	33								X			X				
Firestone	34										X					
Ford Tractor	35-36	X				X	X		X			X				
General Electric	37	X						X								
General Scientific Equipment	37		X													
Gravely	38				X							X				X
Goodyear Tire & Rubber	38										X					
International Harvester	39-41					X	X		X	X		X			X	
Irwin Auger Bit	42															
Jacobsen	42-43				X											
Kohler	44-47				X											

Electric Motors & Controls	Power Trains	Hydraulics	Tires, Steering & Suspension	Field & Crop	Material Handling	Drainage & Irrigation	Forestry & Earth Moving	Horticultural	Power Recreational	Welding	Fasteners	Hand Tools	Painting	Metal Working	Wood Working	Masonry Work	Water Systems	Ventilation	Wiring & Accessories	Design & Construction
MECHANICS				EQUIPMENT						SHOP & MANUAL SKILLS						STRUCTURES				
	X	X		X																
	X	X	X	X						X		X								
													X							
					X												X		X	
	X			X																
			X																	
	X			X																
																			X	
				X				X												
			X																	
	X	X		X			X												X	
												X			X					
												X								
																			X	

COMPANY NAME	PAGE NO.	GENERAL			POWER MECHANICS							EQUIPMENT				
	SUBJECT MATTER AREAS	Career Guidance	Safety	Business Management	Small Engines	Gasoline Engines	Diesel Engines	Electric Motors & Controls	Power Trains	Hydraulics	Tires, Steering & Suspension	Field & Crop	Material Handling	Drainage & Irrigation	Forestry & Fa	
Lawn-Boy	48-49				X											
Lincoln Arc Welding	50-51															
Metal Cutting Tool Institute	52															
Millers Falls	53		X													
Natl. Auto Parts Assoc.(NAPA)	54	X			X	X			X		X					
Natl. Farm Pwr. Equip. Dlrs.	53	X														
New Idea (AVCO)	55-56	X		X								X				
Nicholson File	56															
Niehoff	57-59					X										
Norton Abrasives	60															
Onan	61					X	X									
Portland Cement Association	61		X													
Ridge Tools	62															
Rockwell Power Tools	63-67		X					X								
Sears, Roebuck & Co.	68-69				X							X				
Sioux Tools	69				X	X										
Smith Welding	70															
South Bend Lathe	71															
South. Forest Products Assoc	72-74															


Engines
Diesel Engines
Electric Motors & Controls
Power Trains
Hydraulics
Tires, Steering & Suspension
Field & Crop
Material Handling
Drainage & Irrigation
Forestry & Earth Moving
Horticultural
Power Recreational
Welding
Fasteners
Hand Tools
Painting
Metal Working
Wood Working
Masonry Work
Water Systems
Ventilation
Wiring & Accessories
Design & Construction
OWER MECHANICS
EQUIPMENT
SHOP & MANUAL SKILLS
STRUCTURES

COMPANY NAME	PAGE NO.	Career Guidance	Safety	Business Management	Small Engines	Gasoline Engines	Diesel Engines	Electric Motors & Controls	Power Trains	Hydraulics	Tires, Steering & Suspension	Field & Crop	Material Handling	Drainage & Irrigation	Fores
	SUBJECT MATTER AREAS	GENERAL			POWER MECHANICS							EQUIPMENT			
Stanley Tools	75-77		X												
L.S. Starrett	78-80														
Tecumseh	81				X				X						
Teledyne Wisconsin Engines	82				X	X									
Timken Roller Bearing	83-84	X							X		X				
Union Carbide	84					X	X								
Uniroyal	85										X				
U.S. Steel	85	X	X	X											
Vickers	86-87								X	X					
Western Wood Products Asso	88														
White Farm Equip. (Oliver	89					X	X		X	X		X			

	Engines	Electric Motors & Controls	Power Trains	Hydraulics	Tires, Steering & Suspension	Field & Crop	Material Handling	Drainage & Irrigation	Forestry & Earth Moving	Horticultural	Power Recreational	Welding	Fasteners	Hand Tools	Painting	Metal Working	Wood Working	Masonry Work	Water Systems	Ventilation	Wiring & Accessories	Design & Construction
	MECHANICS				EQUIPMENT							SHOP & MANUAL SKILLS						STRUCTURES				
												X	X			X					X	
													X		X							
		X											X									
		X		X																		
				X																		
																					X	
		X	X																			
																X						
		X	X		X				X													

How to Use This Publication

This publication is designed to assist teachers in identifying and locating materials from commercial businesses. The contents are indexed by company name and by subject matter area to help locate needed materials quickly and easily.

To use the index, look down the column under the subject area you are interested in. Each company having material in this subject area has a ( ) in the subject column in the row opposite the company name. By turning to the page number after each company name, the material they have to offer can be found.

Procedure for Requesting Materials

To obtain materials, write using school letterhead to the company at the address provided. Letters should be brief, to the point and polite. You should indicate to them the source from which you learned about the materials available and how the materials are to be used. Quantity requests should be reasonable.

Material Cost

In most cases items are noted as being free or price information is included. Where no prices are quoted, no indication of cost was given to us by the company. In such situations it is assumed that modest quantitites of the materials are available at no charge.

Publication Description of Materials

For many sources the complete list of items available from the company is included and described. In other instances, space does not permit a complete list or description. In these cases, catalogs or other references obtaining this information are referred to. Teachers should write the company for more specific information.

Types of Material

Most of the materials available from commercial companies fall into three general categories: Literature, Audio-Visual Aids and Special Items. The following descriptions are included to aid the teacher in understanding the terms used.

Literature

Books: Major texts containing complete topic coverage. Usually contains more than 50 pages with chapters, tables of contents, etc. Primarily used to disseminate factual information.

Catalogs: Lists parts, accessories, materials and prices with ordering information.

Kits: Complete set of materials for classroom instruction on a particular subject. May include parts, tools and/or engines.

Manuals: A publication explaining "how to do" things; a handbook or guide for doing tasks.

Pamphlets: A small, soft cover booklet usually containing less than 50 pages. Includes folders, brochures and reprints.

Pocketbooks: Small, pocket-size reference book.

Self-study Courses: Complete set of materials for self-instruction with some instructor guidance. May also be used by instructor as program guides.

Specification Sheets: Sheets containing data for specific operations such as tune-ups, equipment adjustment, and machine shop operations.

Technical Bulletins: Periodic publications on specific topics.

Wall Charts: Large tabular, graphic or pictoral displays for hanging on the wall. Some are 8 1/2 x 11" and can be put into notebooks.

Workbooks: Designed for student use; contain exercises and problems to be solved directly on the pages. May include some self-study material.

Audio-Visual Aids

Most types of audio-visual materials are self-explanatory. Particular attention, however, should be given to the following items:

8 mm movies --- Original "home movie" film

Super 8 mm movies --- Same film width as 8 mm but with smaller, wider spaced sprocket holes.

Note: Many 8 mm projectors can be adapted to both 8 mm and super 8 mm films by changing sprockets and film gates.

Cartridge Film Loops --- Movie film with ends joined in a continuous loop and placed in a plastic ase. Snaps into projectors for instant loading and constant viewing. Several companies make cartridges and most must be used in their own machines. The most common are Technicolor's Magi-Cartridge and Fairchild's MoviePak. Cartridges may be 8 mm or Super mm and must be used in separate projectors; also available with magnetic sound tracks for use in sound projectors.

Cassette Films --- Developed by Kodak for use on 8 mm projectors adaptable to cassettes. May be used in appropriate Kodak, Fairchild or Eumig machines. Have magnetic sound capability.

Paillard Inc. also makes a cassette that uses 8 mm reels for use in their Bolex Multimatic Projector.

Cassette Tapes --- Magnetic tape in closed cartridges for instant loading. May be used in cassette tape recorders only.

Transparency --- Acetate film sheets with opaque images or print on it for use on overhead projectors.

Transparency Master --- Paper prints that can be used to make transparencies on treated acetate film sheets in an infra-red Thermofax machine.

Special Items

Includes items not listed above such as:

Engines
Display Stands
Pocket Calculators
Special Tools

Aluminum Company of America
1254 Alcoa Building
Pittsburgh, Pennsylvania 15219

Free Catalogues:

Alcoa Information Aids Catalogue

Contains a listing of motion pictures and selected items of literature available free from Alcoa on such subjects as uses of aluminum, aluminum welding, aluminum brazing, aluminum fasteners and aluminum soldering.

Catalogue of Literature

A complete listing of all educational literature available free from Alcoa. Included are such things as a slide-rule filler alloy selection guide for aluminum welding, charts, manuals on aluminum paints and their uses, pamphlets on aluminum fasteners and books on welding, brazing and soldering aluminum.

Note: All Alcoa materials are free when requested on school letterhead.

American Iron and Steel Institute
150 East 42nd Street
New York, N. Y. 10017

Send for the following free catalogs:

- Reference and Audio-Visual Materials on Iron and Steel
- Education Cooperation Activities and Services of American Iron and Steel Institute
- Films and Filmstrips

The catalogs contain lists and descriptive information on educational materials on metal working, uses of metals in agriculture, history and development of the iron and steel industry and information on careers in iron and steel related industries.

American Petroleum Institute
c/o New York Petroleum Council
757 Third Avenue
New York, N.Y. 10017

Facts About Oil

Handbook, single copies for teachers

Conservation

Picture and discussion kit, one per classroom

Conserving Our Waters and Clearing the Air

Posters, Research Materials, Teacher's Guide

Energy and Economic Growth

Set of 6 wall charts, Teacher's Guide

Teacher's Resource Reference

Catalog of free materials available on request

All above materials are free

American Society of Agricultural Engineers
2950 Niles Road
St. Joseph, Michigan 49085

Career Information Pamphlets (Free)

- Did You Ever Wish You Could Change the World?
- You're on the Right Track with ASAE
- List of U.S. and Canadian Colleges with Agricultural Engineering/ Educational Programs

AMERICAN PLYWOOD ASSOCIATION
1119 A Street
Tacoma, Washington 98401

Agricultural Literature Index

CATEGORY	Form No.	Price Per 100
General Information		
Plywood Sidings	W40	$ 6.50
Plywood Sheathing for Floors, Walls and Roofs	W30	8.00
Exterior Plywood in Farm Construction (Use of plywood in poultry, dairy, swine, and grain storage facilities)	M390	8.00
Plywood "How To" Book (How to buy & specify, work & finish information)	V605	6.00
Cattle – Dairy and Beef		
Plywood Beef Cattle Feeder (4' x 7' portable unit)	A500	2.50
350 Bushel Cattle Feeder (8' x 16' portable unit)	P300	2.50
Liquid Supplement Cattle Feeder	U140	1.00
Feed and Grain Storage		
10 Ton Feed Bin (8' x 8' x 20' high upright bin)	L230	4.50
1200 Bushel Portable Grain Bin (12' x 16' building)	M200	2.50
Overhead Bin for Feed, Grain or Fertilizer (available May 72)	W115	3.50
Four Compartment Bin for Farm Feed Mill (160 cu. ft. per compartment)	N850	6.50
5500 Bushel Grain Bin	T130	1.00
410 Bushel "Quick Store" Bin	R140	1.00
Fertilizer		
Pallet Bins for Bulk Fertilizer (three designs)	M310	3.00
Bulk Fertilizer Storage Building (60' x 40' frame building)	M520	3.50
40' Span Bulk Fertilizer Storage (40' x 60' pole building)	N720	7.50
Shed Roof Fertilizer Storage (30' x 72' pole building)	P190	2.50
5-Ton Fertilizer Truck Bin	Q560	2.50
Overhead Fertilizer Bin	Q550	3.50
Overhead Bin for Feed, Grain or Fertilizer (available May 72)	W115	3.50
Transportable Fertilizer Bin	T115	3.00
Case History: Laminated arches and plywood save time, money	U125	3.00
Materials Handling		
Plywood Design Manual: Agricultural Pallet Bins (48-page manual for design of bins for apples, pears, carrots, tomatoes, and other crops)	M510	24.00
47" x 47" All Bolted Plywood Pallet Bin	N513	2.50
All Bolted Plywood Vegetable Pallet Bin	R150	1.00
47" x 40" All Bolted Plywood Pallet Bin	U165	1.00
18 Bushel Pallet Bin (4' x 3'-6" x 2' bin)	P440	2.50
Modified "Davis" Plywood Pallet Bin	N511	2.50
64.2 Cubic Foot Pallet Bin	V120	2.50
490 Cubic Foot Bulk Hauler	W110	3.50
Case Histories:		
Plywood Pallet Bins Solve Peach Harvest Crisis	R130	2.00
Conte demands top quality pallet bins	V105	2.00
Stokely-Van Camp	V110	2.50
Plywood Rigid Frame – Building System		
Plan: 32' and 40' Rigid Frame Structure	H450	15.00
Pole Construction – Building System		
Plywood and Poles for Farm Buildings (data sheet)	R126	1.00

American Plywood, Con't

CATEGORY	Form No.	Price Per 100
Poultry Enterprise		
USDA-6000 Poultry House Panel Construction – Floor Management	V130	$ 1.00
USDA-6001 Poultry House Panel Construction – Cage Management	V115	1.00
Case History: Plywood Helps Reduce Poultry Disease . . . Automatically	T150	3.00
Swine Enterprise		
A-Type Hog House (6' x 6' portable units)	K430	2.00
Modified "A" Type Hog House	U155	1.00
Swine Finishing Shed (open front shed)	K480	3.00
Farrowing Shed (two 8' x 20' portable pull-together units)	U670	2.50
24' x 48' Farrowing House	U170	1.00
Farrowing Stall	U175	1.00
Plywood Swine Housing	Q160	10.00
Other Agricultural Literature		
2-Stall Horse Barn	U160	1.50
Case Histories:		
Prefab Plywood Panels cut farm labor housing costs	U115	2.00
Plywood helps oyster industry survive	U120	2.00
Data Sheets:		
Plywood Finishing for Farm Buildings	R120	1.00
Plywood Doors for Farm Buildings	R121	1.00
Plywood Ceilings for Farm Buildings	R122	1.00
Plywood Roofs for Farm Buildings	R123	1.00
Plywood Walls for Farm Buildings	R124	1.00
Plywood and Insulation for Farm Buildings	R125	1.00
Plywood and Poles for Farm Buildings	R126	1.00
Plywood Floors for Farm Buildings	R127	1.00
Miscellaneous		
Product Standard PS 1 for Softwood Plywood/Construction and Industrial	Q470	8.50
High Density Overlaid Plywood	S340	7.00
Medium Density Overlaid Plywood	U355	4.00
MDO Plywood Siding (single-page data sheet on Medium Density Overlaid Plywood)	Q30	1.00
Texture One-Eleven (single-page product data sheet)	Q170	1.00
Rough Sawn (single-page product data sheet)	R410	1.00
Ideas for Textured Plywood Portfolio	R420	25.00
Finishing Plywood for Exterior Exposure (single sheet)	V307	1.00

FILMS--(All are 16mm, sound films

"In Pursuit of Happiness"--25 minutes, color
New APA film on America's housing needs

"Design vs. Nature's Violence"--22 minutes, black and white
Dramatic documentation of how plywood structures withstood 1964 Alaska earthquake

"Plans Approved"--27 minutes, color
Explains importance of building codes and role of building official

"Plywood Pallet Bins for Agriculture"--18 minutes, color

NOTE: Cost for use of these films is return transportation including insuring the print for $100.

American Plywood, Con't

Consumer and Do-It-Yourself Literature Index

CATEGORY	Form No.	Price Per Copy	Price Per 100
General Information			
Guide to Plywood Grades	Q390	N/C	$ 4.50
The Plywood "How To" Book (how to buy, work and finish)	V605	.10	6.00
Bookful of Ideas for Your New Home	T635	.25	10.00
Finishing Plywood for Exterior Exposure (single sheet)	V307	N/C	1.50
Nine Good Ideas for Sports Equipment and Facilities	V355	N/C	4.50
Plywood Home Storage Plans (12 booklets plus display box – $2.50) (96-page booklet of indoor and outdoor plans)	P530	.35	21.00
SpaceBuilders Kit (plans for carport, patio deck and fence)	U640	.25	20.00
Ideas for Textured Plywood Portfolio	R420	.50	25.00
Boat Storage Plans		Single plans .25 each	Quantity orders $5 per 100
Folding Boat Port M50 — 24' Boat Storage Port	L500		
Boat Plans			
Plywood Boat Plans Directory (source list for 174 boat plans)	U655	.25	20.00
26' Racing-Cruising Sloop (Thunderbird) Plans for this excellent Thunderbird class sailboat ($5.00) may be obtained by writing Mr. Ken Nielsen, Secretary, International Thunderbird Class Association, Box 199, Seattle Wa. 98111.			
11'3" Outboard Utility #35 — 5' Sailboat Plan #70		Single plans .25 each	Quantity orders $5 per 100
13'4" Outboard Utility-Runabout #40 — 7'9" Pram Dinghy #30			
16' Outboard Runabout #55 — 11'6" Sectional Skiff #90			
11'3" Plyak #95			
Carport and Carport Storage Plans		Single plans .25 each	Quantity orders $5 per 100
Storage Port B420 — Carport Enclosure	H280		
Leisure Time Homes			
Great Ideas for Second Homes (new 36-page full color booklet describes 20 second homes)	T610	.50	30.00
Miscellaneous			
Finishing Softwood Plywoods	M60		25.00
Qualified Coatings for Plywood	S910		6.00
TAMAP Tool Box (developed from NAHB Time and Motion Study)	M540		1.00
Pressure Preserved Plywood	Q220		2.00
Fire-Retardant-Treated Plywood Roofs	P250		3.50
Fire-Retardant-Treated Plywood Suppliers	P170		1.00
High Density Overlaid Plywood	S340		7.00
Medium Density Overlaid Plywood	U355		4.00
A Bookful of Ideas for Your New Home	T635		10.00
Unwinding a Tree: The Story of Plywood	U245		4.00
Plywood "HOW TO" Book (how to buy/work/finish information)	V605		6.00
Architectural Cast Histories:			
Brockton Art Center	V390		5.00
Fiasco Restaurant	V314		5.00
Resort Condominiums	V312		5.00
Sea-Tac Motor Inn	V375		5.00
Surf Club	V395		5.00
YM-YWHA Day Camp	V313		5.00

American Plywood, Con't

CATEGORY	Form No.	Price Per Copy	Price Per 100
Outdoor Living Handy Plans			
Garden Equipment and Tool Storage		Single plans .25 each	Quantity orders $5 per 100
Garden House	J330		
Garden Potting Bench	C470		
Garden Storage Cabinet	B430		
Hanging Storage Box	C450		
Knockdown Sawhorses	F270		
Lawn Tool Storage	D80		
Modular Plant Boxes	D100		
Mower Port	H530		
Outdoor Garden Storage	U610		
Outdoor Storage Unit	P180		
Outdoor Storage Wall	B410		
Portable Planter Screen	C500		
Storage Pergola	G110		
Tamap Tool Box	M540		
Tool Cabinet, Work Bench	C130		
Trash Can Bin	C490		
Patio Furniture and Equipment			
Outdoor Serving Wagon	D120		
Patio Furniture	B440		
Section Patio Tables	D110		
Sports, Camping, and Picnic Equipment			
Gun and Fishing Cabinet	E290		
Picnic Cabinet	C480		
Picnic Chest	H120		
Portable Camp Shelter	F460		
Saddle Rack	V160		
Wagon Kitchenette	H590		
Fences and Screens			
Shadow-Box Screen	H320		
Stepped Screen Fence	H330		
Vertical Step Fence	H300		
Miscellaneous Handy Plans			
Tilting Dolly (inexpensive device for increasing mobility of crippled children)	S610		
Portable Dog Kennel	H70		
Young American Design Series			
Plan No. 1 Modular Outdoor Storage	U605	$ .50	$12.00
Plan No. 2 Slumber Bunk	U645	.50	12.00
Plan No. 3 Twin Sleepers Bunks	U650	.50	12.00
Plan No. 4 Multi-Cubes	V615	.25	5.00
Plan No. 5 Trestle Table	V610	.25	5.00
Plan No. 6 Storage Chest	V620	.25	5.00
Plan No. 7 Play Cubes	V625	.25	5.00
Plan No. 8 Stoway Storage Unit	V635	.50	12.00
Plan No. 9 Alltogether (corner bed unit)	V640	.50	12.00
Plan No. 10 Movable Kitchen Modules	V630	.50	12.00
Plan No. 11 Desk/Service Bar	V655	.50	12.00
Plan No. 12 Outdoor Storage Center	V650	.50	12.00
Plan No. 13 Cable Car Bed	V645	.50	12.00
Plan No. 14 Modular Storage Deck	V665	.50	12.00
Concrete Forms			
Plywood Concrete Forms (4-page Sweet's catalog)	W90		1.50
Plywood for Concrete Forming (32-page manual)	V345		10.00
Floors			
2-4-1 Plywood Design & Installation Data	T375		5.50
Plywood Underlayment	W50		1.50
Plywood Underlayment Application Instructions	V385		N/C
APA Glued Floor System	U405		7.00

American Plywood, Con't

	Form no.	Price Per 100
General Information		
Plywood Construction Guide for Residential Building	Q450	$14.00
Plywood Construction Systems (application details and load-span data for commercial and industrial buildings)	P310	17.00
Mod 24 Building Guide	W405	7.50
Guide to Plywood Grades:		
8½ x 11 size	Q390	4.50
Pocket size	Q420	2.50
Plywood Properties & Grades	W20	3.50
Plywood Specification Guide	R820	4.00

Automotive Electric Association
16223 Meyers Road
Detroit, Michigan 48235

Automotive Electric Association offers a wide variety of materials on engine electrical and fuel systems. All orders for materials directed to AEA must include specific shipping costs with the price of the materials. Write to the above address for a free list of materials available and the instructions for covering shipping costs.

Materials in the list include tune-up charts and manuals, various service manuals, annual electrical specifications handbooks, training courses, instructor guides, slide sets and wiring diagrams.

AUTOLITE-FORD PARTS DIVISION
NATIONAL SERVICE DEPARTMENT
P.O. BOX 3000
LIVONIA, MICHIGAN 48151

PUBLICATIONS CATALOG SHEET

STUDENT REFERENCE MANUALS WITH FULL COLOR ILLUSTRATIONS	FORM NUMBER	PRICE
Alternator Service and Testing Procedures	AUD-7525-C	$2.00
Battery Service and Testing Procedures	AUD-7537-I	2.00
Carburetor Reference Manual	AUD-7523-I	2.00
Vehicle Emission Control Systems Manual	AUD-7528-H	2.00
High-Performance Engine Manual	AUD-7528-HP-I	2.00
Ignition Systems Reference Manual	AUD-7528-E	2.00
Tune-up Specifications Manual	AUD-7502	2.00

NOTE: Accredited educational institutions may be eligible for a 25% discount on student manual orders of twenty (20) or more copies.

DESCRIPTION OF TRAINING MATERIAL		PRICE
AUTO TECH		
Automotive Tune-up Service Training Manual Home Study Automotive Service Training Course • Administered by the Autolite Technical Service Institute		$ 25.00
INSTRUCTOR PACKAGES		
1. Alternator Charging Systems Clinic	• Instructor Manual • Set of 66 full-color slides	74.50
2. Battery Service and Testing Clinic	• Instructor Manual • Set of 31 full-color slides	74.50
3. Carburetion and Fuel Systems Clinic	• Instructor Manual • Set of 40 full-color slides	74.50
4. Ignition Systems Clinic	• Instructor Manual • Set of 61 full-color slides	74.50
5. Automotive Tune-up Clinic (40-hour Course)	• Instructor Manual • Set of 108 full-color slides	124.50
6. Vehicle Emission Control Systems Clinic	• Instructor Manual • Set of 85 full-color slides	124.50

Auto-Lite Ford, Con't

1972 Service Publications Order Form:

Contains an order blank and list of titles and prices of service manuals for all parts of the entire line of Ford cars and trucks.

Service Training Aids Catalogue:

A complete listing of all service training materials with description and prices.

Type of Materials	Subject Areas	
Film reviewbooks	Alternators	Speed Control
Slide Films and records	Battery	Starting System
Workbooks	Brakes	Steering and Suspension
Instructor Notes	Carburetor and Fuel Pump	
Transparencies	Clutches	Transmissions
Handbooks	Cooling System	Miscellaneous
Wiring diagrams	Electrical System	
Car Diagnosis Manuals	Emission Control	
Multi-media kits	Engines, Diesel	
Programmed instruction books	Engines, Gasoline	
	Fuel Systems	
	Ignition System	
	Rear Axle and Drive Shaft	

Bendix
Automotive Service Division
Literature Warehouse
2550 East Grand Boulevard
Detroit, Michigan 48211

All materials are free.

Chart

Trouble Shooting Power Brakes

Manuals

Tune-up/Troubleshooting Guide (#7 340)

Bendix P and D Tune-Up Specifications (Catalogue #7-512A)

Brake System Service Manual (#8-200-1A)

THE BLACK & DECKER MFG. CO.
PUBLIC RELATIONS DEPARTMENT
TOWSON, MARYLAND 21204
PHONE: 828-3715 AREA CODE 301

SUBJECT:. New Power Tool Safety Film

A new 16 mm color sound film entitled, "Playing It Safe With Power Tools", has been produced by The Black & Decker Manufacturing Company. It is available at no charge to interested groups by contacting Modern Talking Pictures, Incorporated, located in all major metropolitan areas.

The 14 minute movie demonstrates safe procedures in the use of a variety of portable power tools for industry, home, and lawn and garden. Proper tool application, work preparation, and the use of auxiliary safety equipment are depicted.

The film stresses accident prevention by "working defensively". Handouts with a checklist of basic power tool safety rules will be distributed at each showing.

Order your film from the address closest to you.

BOSTON, MASSACHUSETTS 02134
1168 Commonwealth Avenue
734-3732

BUFFALO, NEW YORK 14202
122 West Chippewa Street
TL 3-1805

NEW YORK, NEW YORK 10036
1212 Avenue of the Americas
Judson 6-5530

SUMMIT, NEW JERSEY 07901
315 Springfield Avenue
277-6300

PHILADELPHIA, PENNSYLVANIA 19107
1234 Spruce Street
Kingsley 5-2500

PITTSBURGH, PENNSYLVANIA 15222
910 Penn Avenue
Grant 1-9118

BRIGGS & STRATTON CORPORATION
P. O. Box 702
Milwaukee, Wisconsin 53201

HIGH SCHOOL AND COLLEGE PROGRAM:

To qualify for this program a school shall:

1. Have a REGULAR course in small gasoline engine repairing. The course should repeat each semester or year.
2. Agree to use the material for educational, classroom purposes only.
3. Welcome any visitation by Briggs & Stratton Corporation personnel wishing to review the use of this material.
4. Agree that the material is a gift to the school and not to an individual instructor.

To schools that qualify, Briggs & Stratton Corporation will furnish at no charge one (1) engine of our choice, copies of our "General Theories of Operation" and "Repair Instructions" in quantities to cover one average class, and a set of wall charts that reproduce the drawings in the "General Theories of Operation".

If your school qualifies under these conditions and you will use the engine for educational purposes only, please write to Briggs and Stratton Corporation who reserves the right to refuse any request or to terminate this offer at any time.

If your application is approved, one (1) engine and material will be sent with our best wishes for the success of your classes and with knowledge of the fine job you teachers are doing for the future citizens of your community. This "no charge" material will be shipped from Briggs & Stratton Corporation.

Additional engines, to be used for educational purposes only, are available at 40% off the current list price, f.o.b. Milwaukee. Additional copies of the "General Theories of Operation" and "Repair Instructions" for hand-out purposes or for groups other than classroom use are available at 25¢ and 50¢ respectively. These and other teaching aids are listed in this manual. If you wish to order any of these "charge" items, please place your order through our Authorized Central Service Distributor. Do not send your purchase order to Briggs and Stratton Corporation.

MS-4602 TURN-OVER CHARTS Compression, Carburetion, Ignition $ 5.00 Net
20" x 24" Wall Charts covering Theory of Compression, Carburetion and Ignition.

MS-3553 GENERAL THEORIES OF OPERATION $ .25 Net
This 23 page booklet is used with Charts above.

MS-4750 REPAIR INSTRUCTIONS $ .50 Net
Contains complete servicing data on all late model Briggs & Stratton engines.

MS-3222 REPAIR MANUAL $ 4.50 Net
Contains engine parts price list, parts lists covering engines produced in the last ten years, repair instructions.

35 MM CARDBOARD MOUNTED COLORED SLIDES (with appropriate scripts)

Set #43 - 69 slides Disassembly, Inspect, Reassembly $6.90 Net
The complete overhaul takes the student through a step by step disassembly and reassembly of Briggs & Stratton 6 and 8 cubic inch aluminum alloy engines.

Set #7 - 28 slides Start, Stop and Store $2.80 Net
Instructs engine owner on type of oil and gasoline to use in Briggs & Stratton engines. How to start, stop, maintain, and store during off season.

Set #42 - 38 slides Trouble Shooting $3.80 Net
Trouble Shooting shows proper methods of checking Compression, Carburetion, and Ignition. How to make proper magneto and carburetor adjustments, etc.

Set #20 - 15 slides Checking Carburetor $1.50 Net
How to check carburetor for wear and proper adjustment.

Set #24 - 15 slides Valves and Seats $1.50 Net
How to inspect and reface valves and seats.

Set #3 - 11 slides Resizing Cylinder $1.10 Net
Illustrates when and why to resize cylinders. Teaches correct methods of cylinder resizing.

Set #5 - 12 slides Bearing Replacement $1.20 Net
How to inspect bearings for wear. Why bearing size is important. How to replace bearings.

Training School-

Usually held each August. It is a one week, forty hour, class accredited by the Stout State University in Menomonie, Wisconsin. Each class is limited to 24 students.

Brown & Sharpe Mfg. Co.
Industrial Products Division
Precision Park
North Kingstown, R. I. 02852

The following data is available free of charge in reasonable quantities by writing on your school's or company's stationery to: Brown & Sharpe Mfg. Co., Industrial Products Division, Precision Park, North Kingstown, Rhode Island, 02852.

Shop Tool Manual – Catalog covering work-holding, tool-holding and measuring equipment with reference data.

WC-1 Wall Chart – Decimal Equivalents of Common Fractions
WC-2 Wall Chart – How to Read the Micrometer
WC-3 Wall Chart – How to Read the Vernier and Vernier Protractor
WC-4 Wall Chart – Parts of the Micrometer
WC-5 Wall Chart – Tools of Industry showing typical tools covered in Lesson Plans.

Pocket Plastic Chart of Decimal Equivalents and Tap Drill Sizes

Principles and Practice of Precision Measurement – Instructor's Guide – 61 pages for the teacher for planning and conducting a course in Precision Measurement.

* * * * * *

The following data is available at the List Prices shown and may be ordered through Local Brown & Sharpe Distributors or directly from Brown & Sharpe:

THE YOUNG MACHINIST'S HANDBOOK – To assist the beginner in the use of machines and machinists' tools.

Paper Cover	Ordering No. 42-99990-53	$2.75
Hard-Bound	42-99990-54	3.75

PRECISION MEASUREMENT – STUDENT'S TEXT – Used in Job Entry Training courses at Brown & Sharpe.

Ordering No. 783-2 $5.25

PRECISION MEASUREMENT – INSTRUCTOR'S GUIDE – Teacher outline Guide for course in Precision Measurement used in Job Entry Training courses at Brown & Sharpe.

Ordering No. 783-3 $5.25

J.I. CASE COMPANY
6486 Ridings Road
Industrial Park
P.O. Box 1096
Syracuse, New York 13200

-OR-

J.I. CASE COMPANY
700 State Street
Racine, Wisconsin 53404

MASTER SLIDE AND TAPE PRESENTATIONS

Set #		No. Of Slides	Cost Of Slides	Tape/w Slides
1	Loader Control Valve	28	7.00	10.00
2	Hydraulic Bucket Cylinder	31	7.75	11.00
4	D23059 Control Valve	28	7.00	10.00
5	D23060 Hydraulic Pump	34	8.50	12.00
6	Quality Control at Burlington	20	5.00	8.00
7	Hyd. Pump (Webster) on 200-300 Tractor	26	6.50	10.00
8	Moldboard Plow Equipment	15	3.75	7.00
9	SR-ST Semi-Mounted Plows	19	4.75	8.00
11	400 Series Offset Wheel Harrow	23	5.75	9.00
13	Servicing R. I. Tractor Transmissions	62	15.50	19.00
14	188 Cu. Inch Diesel Engine	67	16.75	20.00
15	Servicing R. I. Tractor Hyd. Systems	79	19.75	23.00
16	Servicing R. I. Independent PTO	9	2.25	5.00
17	Servicing R.I. Tractor Power Steering	33	8.25	11.00
18	Servicing R. I. Tractor Torque Conver.	26	6.50	10.00
19	200 Hay Baler	55	13.75	17.00
21	800-100 Combines - Hyd. Assemblies	30	7.50	10.00
22	425 Corn Picker	32	8.00	11.00
24	Case-O-Matic Oil Flow	31	7.75	11.00
25	Servicing Case-O-Matic Drive	52	13.00	16.00
27	Valve Systems and Cylinder Heads	49	12.25	15.00
28	Fuel Filtering Systems	31	7.75	11.00
29	Installing & Timing Bosch Fuel Inj. Pump	32	8.00	11.00
31	Eight-Speed Spur Gear Transmissions	36	9.00	12.00
32	20,000 Volts Under the Hood	44	11.00	14.00
33	The Cranking Circuit	53	13.25	16.00
34	Regulation and Charging Circuit	52	13.00	16.00
35	Owatonna Y-360 A Track Pin Press	23	5.75	9.00
36	Aeroquip Hose Fittings	29	7.25	10.00
37	Oscilloscope Patterns	23	5.75	9.00
38	Tune-Up Procedures	23	5.75	9.00
39	Powertest Dynamometers	18	4.50	9.00
40	Rockford Mounted Plows	16	4.00	7.00
42	Rockford PTO Hook-Up Assemblies	24	6.00	9.00
44	6000 Shaefer Plow	13	3.25	6.00
45	The Parts Story	100	25.00	28.00

J.I. CASE (continued)

57	310 Crawler Transmission Differential.	72	18.00	21.00
58	C-12 Winch	47	11.75	15.00
59	Parker Control Valve	33	8.25	11.00
60	Webster D26066 Pump.	29	7.25	10.00
62	Commercial Pump D25347	32	8.00	11.00
64	Gland Type Cylinders	25	6.25	9.00
66	Hydra-Sleuth	31	7.75	11.00
68	Draft-O-Matic.	71	17.75	21.00
69	Hydra-Static	95	14.25	18.00
73	Posi-Traction Differential	19	4.75	8.00
75	Construction King Loader Control Valve Parker	54	8.10	11.00
76	Construction King Pump (Cessna). . . .	53	4.95	8.00
77	Construction King Backhoe Valve. . . .	71	17.75	21.00

FILM STRIP AND RECORD PROGRAMS

RPS-34 "How It Works"	$ 6.75
RPS-34 "Diagnosis".	8.00
RPS-34 "Servicing".	8.00
Servicing '70 Series Power Steering & Brakes. .	8.00
580 Power Shuttle	6.75
680 Power Shuttle	10.00
Hydraulic Testing With Hydra-Sleuth	6.00

Caterpillar Tractor Company
Service Training Division
600 W. Washington
East Peoria, Illinois 61611

Catalog

Available free from Caterpillar and from the Instructional Materials Service at Cornell is a "Catalog of Service Training Materials" containing a complete listing with descriptions of educational materials available. Included are such things as slide presentations, course kits, programmed learning sets and a variety of literature.

The Instructional Materials Service, 201 Stone Hall, Cornell University, Ithaca, N.Y. 14850 stocks the following Caterpillar slides and scripts:

Pistons, Rings and Liners	$10.00
Heads, Valves and Camshafts	7.00
Crankshafts, Balancers, Dampers and Bearings	9.50
Timing and Timing Gears	8.00
Air Induction Systems	6.00
Air Cleaners and Precleaners (Dry Type)	7.50
Basic Engine Lubrication	8.50
Diesel Fuel Systems, Part I	5.50
Diesel Fuel Systems, Part II	6.00
The Gasoline Carburetor	11.00
Direct Drive Transmissions	9.00
Basic Power Shift-Planetary Gearing	10.00
Principles of Basic Hydraulics	9.00
Putting Hydraulics to Work	6.50
Fundamentals of Hydraulic Pumps	8.00
Introduction to Hydraulic Valves, Part I	8.50
Introduction to Hydraulic Valves, Part II	7.50

Basic Diesel Engine Course

Ten lessons, consisting of lesson plans, tests and answer sheets, instructor and student notes, 83 slides and 6 transparencies. Provides about 35 hours training. $66.00

Champion Spark Plug Company
School Aid Section
P.O. Box 910
Toledo, Ohio 43601

Teachers Kit--Includes:

Pamphlets--Facts About Spark Plugs & Engines
--Tractor Tips
--Automotive Service Manual
--Tour Guide-Toledo Plant
--1972 Spark Plug Recommendations
--1964-1971 Engine Tune-up Charts for Passenger Cars and Light Trucks

Charts--Used Plugs Tell a Story
--Basic Automotive Ignition System
--Trouble Shooting Guide for the Car That Won't Start

Film Information Sheets

The Spark of Power

The Challenge of Racing

431 plus 2

A Spark in Time on the Firing Line

The Champion's Way

Picture ID Quiz--Used Plugs Tell a Story

Crane Company
Deming Pumps Division
884 South Broadway
Salem, Ohio 44460

Product Meeting Manual

Contains bulletins, pamphlets, diagrams, charts, tables and literature on various types of pumps and water systems.

Free when requested on school letterhead.

CINCINNATI MILACRON
Marketing Communications
and Promotion Department
4701 Marburg Avenue
Cincinnati, Ohio 45209

Listed below are EDUCATIONAL PAMPHLETS which are useful in industrial training programs. One set is available to instructors, supervisors, and foremen at no charge. Additional copies - see prices below:

ITEM			
(a)	_____	Milling Machine Practice, M-2497-1	.50 ea.
(b)	_____	How to Run a Milling Machine, M-1798	.50 ea.
(c)	_____	Cutting Gear Teeth on a Milling Machine, M-1769-3	2.00 ea.
(d)	_____	Look Sharp at Your Cutters, M-2541-1	1.00 ea.
(e)	_____	Physics of Metal Cutting, A-138	1.00 ea.
(f)	_____	Use and Care of Carbide Milling Cutters, M-2685-1	1.00 ea.
(g)	_____	Centerless Grinding, Principles, Theory and Applications, G-758-3	1.00 ea.
(h)	_____	Explaining the Centerless Principle, G-509-4	.50 ea.
(i)	_____	Check Sheet on Grinding, (No Number)	Free
(j)	_____	Table of Leads (2½" to 100") Card size, 17½" x 22"	2.00 ea.
(k)	_____	Table of Change Gears for Cutting Spirals, M-1200	2.00 ea.
(l)	_____	Index Tables for Std. Index Plate (Large plate of Wide Range Divider & High Number Indexing) M-1007	2.00 ea.
(m)	_____	Milling Calculator - Speeds & Feeds	1.00 ea.

INSTRUCTIONAL AND PARTS LIST CATALOGS

Operator's Instruction Books, Service Manuals and/or Parts List Catalogs, and other instructional literature is available on many CINCINNATI machines. Two copies of each instructional publication for a particular machine are supplied with the machine that has been purchased directly from us. There is a charge for additional copies. Prices will vary with the instructional publication requested. List machine serial number and publication number if known.

A TREATISE ON MILLING AND MILLING MACHINES

"A Treatise on Milling and Milling Machines" case bound volume, contains over 896 pages of text, over 200 formulae and 700 illustrations and charts to solve various problems encountered in shop practice. The book is 6½" x 9½" in size. Price - $8.00* which includes postage and taxes. Brochure enclosed for ordering.

* Special discount applicable for schools.

The Cooper Group
Crescent-Lufkin-Weller
P. O. Box 728
Apex, North Carolina 27502

Manuals:	Taping Techniques for Engineers and Surveyors (Lufkin)	$ 1.00
	Improving Your Measurement I. Q. (Lufkin)	free

Catalogues:

Lufkin Measuring Tapes and Rules for Engineers and Surveyors (#201)	free
Lufkin Tape and Rule (#106A)	free
Weller Industrial Soldering Tools	free
Weller Tools and Accessories	free
Crescent Quality Hand Tools (#37A)	free

Cummins Engine Company, Inc.
1000 Fifth Street
Columbus, Indiana 47201
Attn: Parts & Service Publications Dept.-20140

Materials List

Cummins puts out a 17 page listing of all the materials they have available. This list includes shop manuals on their entire line of engines, tool catalogs, service bulletins, wall charts, parts catalogs, 16 mm movies, 35 mm slide kits, booklets and cutaway parts. Write Cummins and request this list of materials for deisel engines.

DANA CORPORATION
SCHOOL ASSISTANCE PROGRAM
HAGERSTOWN, INDIANA 47346

FREE

Color Filmstrips with Lecture Notes

(The lecture notes that accompany each filmstrip need not be returned)

That High Power Top Inch—The story of piston rings—how they were developed and how they function in an engine. Suggested time: 30 minutes

Preventing Oil Loss Through the Valve Guides—This 23-frame filmstrip is concerned with oil loss through valve guides, an increasingly serious problem with OHV high-compression engines. Suggested time: 15 minutes

Diagnosing Excessive Oil Consumption and Engine Overhaul Procedure—This film gives the step-by-step procedure for diagnosing and performing a complete piston ring job. The suggested lecture notes that accompany the stripfilm may be read verbatim or used as a source of information for the instructor to develop explanatory comments as the pictures are shown. Suggested time: Two classroom periods

Installing Piston Rings in Farm Tractors—This film gives the step-by-step procedure for diagnosing and performing a complete piston ring job for gasoline and diesel tractors. Suggested time: Two classroom periods

Diagnose it First—Six major causes of heavy-duty engine failure and poor performance are analyzed in this 80-frame color filmstrip. Both gasoline and diesel engines are represented and examples of abnormal combustion, scuffing and scoring, dirt, valve oil consumption, positive crankcase ventilation, and improper ring installation are shown.

Prescription for Longer Valve Life—A thirty-minute stripfilm program with script, outlining procedures for diagnosing engine valve problems.

From Ingot to Engine—The Story of a Piston—Each important step in the manufacture and inspection of quality pistons is shown in this filmstrip. Suggested time: 20-30 minutes

Progress in Suspension Systems—A filmstrip with script showing the progress in suspension systems in the past fifteen years.

16 mm Sound Motion Pictures

Case of the Slippery Oil—A color movie that shows the proper procedure for diagnosing oil consumption and how to rering an engine properly. In an amusing manner, it also tells how *not* to work on an engine. Running time 40 minutes

Background for Leadership—A color movie showing the major manufacturing processes required to produce piston rings, chrome plating, sleeve castings, speed controls and valve seals. Particular attention is given to the research and testing required to produce these automotive products Running time: 30 minutes

Dirt—Engine Enemy No. 1—Produced specifically for classroom instruction, this sound and color motion picture shows how dirt affects pistons, rings, cylinders, bearings and other engine components. By pointing out the problems caused by the entry of dirt into the engine, the film shows how to recognize abrasive wear, how to prevent abrasives from entering the engine, and how to correct abrasive wear problems. Running time: 10 minutes

Special Events Sound Movies—While these color sound motion pictures are not strictly educational, they are a phase of applied master auto mechanics. They are exciting records of pre-race activity and the big Indianapolis 500 Mile Race. The 1967 spotlights the Yankee 300 Stock Car Race at Clermont, Indiana, and the 1968 shows drag racing events plus the Bristol, Tennessee and Daytona Beach, Florida late model stock car races. Running time for each is 30 minutes.

VICTORY CIRCLES 1967
VICTORY CIRCLES 1968
VICTORY CIRCLES 1969
VICTORY CIRCLES 1970

Printed Materials

Service Manual for the Doctor of Motors—The 101-page Service Manual is an up-to-date, 8½" x 11" book printed in two colors. It is a comprehensive, well-illustrated manual that furnishes basic principles of piston ring design, operation and nomenclature as well as the fundamentals of engine overhaul. The book is available to students, educational institutions and departments of education at $1.00 per copy. Please enclose check or money order with your purchase order.

Doctor of Motors Rx for Better Gasoline Engine Overhauls—This 20-page, well-illustrated brochure gives you a step-by-step procedure for doing a Power Service engine overhaul. Included are reringing, remachining the top ring groove, resizing the worn pistons and checking and correcting bearing clearances.

Doctor of Motors Rx for Better Diesel Engine Overhauls—A brochure based upon four service engineering articles which have appeared in Magic Circle containing the latest service information concerning piston ring installation and engine overhaul procedures for diesel engines. The Magic Circle articles have been expanded in this brochure. Well-illustrated.

Doctor of Motors Rx for Better Small Engine Overhauls—This brochure is based upon a series of maintenance and service articles that appeared in the MAGIC CIRCLE. Well illustrated.

Doctor of Motors Rx for Preventing Oil Loss Through Valve Guides—This prescription brochure explains why valve seals are needed in many engines, new as well as old. Performance data on Perfect Circle Valve Seals are given. Well-illustrated installation instructions are included.

Important Steps—Ring Installation Poster—Pictures—whether motion pictures, slides, or stills—may not always be worth 1,000 words, but good pictures are extremely valuable in the classroom. The "Important Steps" poster (15" x 23") has 20 excellent pictures depicting steps basic to a well-done Power Service engine overhaul.

Wear Guage—With a Perfect Circle top groove Wear Gauge, top grooves can be checked for excessive wear more quickly and accurately than by any other method. One gauge is available to auto mechanics' instructors, no charge. Additional guages, 50 cents each.

David Brown Tractors
c/o Northeast Tractor Company
Route 68
Hubbardston, Massachusetts 01452

Literature

Selectamatic Tractors Repair Manuals

--3-Cylinder Diesel Engine
--3-Cylinder Gasoline Engine
--4-Cylinder Diesel Engine (AD4/47)
--4-Cylinder Diesel Engines (449001 and AD4/55 Series)
--Clutch Section
--Transmission
--Hydraulics

All of above sections contained in a 3-ring notebook.

780 Selectamatic Instruction Book
880 Selectamatic Instruction Book
1200 Selectamatic Instruction Book
1200 Selectamatic Parts Catalog
880 Tractor Parts Catalog
Technical Bulletin--Hydraulic Full Flow Filter

Advertising brochures on all tractor lines

JOHN DEERE SERVICE PUBLICATIONS
JOHN DEERE ROAD
MOLINE, ILLINOIS 61265

Title	Order No.	Quantity Desired	Price Ea.*	10 or More Ea.*
HYDRAULICS Manuals	FOS-10B		$ 5.00	$ 3.75
175 Slides	FOS-10 Slides		$58.00	—
ELECTRICAL SYSTEMS Manuals	FOS-20B		$ 6.00	$ 4.50
135 Slides	FOS-20 Slides		$45.00	—
ENGINES Manuals	FOS-30B		$ 6.50	$ 4.85
195 Slides	FOS-30 Slides		$64.00	—
POWER TRAINS Manuals	FOS-40B		$ 5.00	$ 3.75
165 Slides	FOS-40 Slides		$55.00	—
SET OF FOUR MANUALS (above)	FOS-90 Set		$19.95	$19.95
SHOP TOOLS Manuals	FOS-51B		$ 2.00	$ 1.50
45 Slides	FOS-51 Slides		$15.00	—
WELDING Manuals	FOS-52B		$ 4.00	$ 3.00
130 Slides	FOS-52 Slides		$43.00	—
BELTS AND CHAINS Manuals	FOS-53B		$ 2.40	$ 1.80
80 Slides	FOS-53 Slides		$27.00	—
BEARINGS AND SEALS Manuals	FOS-54B		$ 2.80	$ 2.10
125 Slides	FOS-54 Slides		$41.00	—
TIRES AND TRACKS Manuals	FOS-55B		$ 2.80	$ 2.10
80 Slides	FOS-55 Slides		$27.00	—
MOWING AND SPRAYING EQUIPMENT Manuals	FOS-56B		$ 2.00	$ 1.50
75 Slides	FOS-56 Slides		$25.00	
AIR CONDITIONING Manuals	FOS-57B		$ 3.60	$ 2.70
60 Slides	FOS-57 Slides		$20.00	—
FUELS, LUBRICANTS AND COOLANTS Manuals	FOS-58B		$ 2.80	$ 2.10
60 Slides	FOS-58 Slides		$20.00	—
SET OF EIGHT MANUALS (above)	FOS-50 Set		$18.95	$18.95
ALL TWELVE MANUALS	FOS-160 Set		$38.90	$38.90
				TOTAL

*Prices include postage, handling, and taxes to anywhere in U S or Canada.
(Check or purchase order in U. S money enclosed)

Note: All of the John Deere FOS Manuals and the slide set for Shop Tools are stocked and distributed by the Instructional Materials Service, 201 Stone Hall, Cornell University, Ithaca, New York 14850

Technical Literature Department
Delco-Remy
Division of General Motors Corporation
Anderson, Indiana 46011

TRAINING AIDS

PRICE LIST

(Supersedes all previous price lists)
PRICES EFFECTIVE JUNE 1, 1970

SUBJECT TO CHANGE WITHOUT NOTICE

PRICES APPLY IN U.S.A.
(For Orders To Be Delivered in Indiana—
Add 2% Indiana Sales Tax)

TRAINING CHARTS (26" x 36") Bound flip-type charts for instructors' use. One manual is provided with each chart section.

	UNIT COST
Section A—Fundamentals of Electricity and Magnetism	$12.75
Section B—Storage Batteries	7.50
Section C—Cranking Motors and Series Parallel Switches	8.00
Section D—The Ignition Circuit	7.50
Section E—Generators (D.C. Type)	7.50
Section J—Fundamentals of Semiconductors	7.50
Section K—Fundamentals of Delcotron® Generators (Alternators)	10.00
Section L—Transistor Regulators	8.50
Section M—Delcotron® Generator and the Charging System (Passenger Car—10 DN Series)	8.00
Section R—Double Contact Regulators (used with Delcotron Generators)	9.00

MANUALS FOR ABOVE CHARTS (extra copies)

DR-5133A —Fundamentals of Electricity and Magnetism	$0.50
DR-5133B —Storage Batteries	0.50
DR-5133C —Cranking Motors and Series Parallel Switches	0.50
DR-5133D —The Ignition Circuit	0.50
DR-5133E —Generators (D.C. Type)	0.50
DR-5133J —Fundamentals of Semiconductors	0.50
DR-5133K —Fundamentals of Delcotron® Generators (Alternators)	0.50
DR-5133L —Transistor Regulators	0.50
DR-5133M —Delcotron® Generator and the Charging System (Passenger car—10 DN Series)	0.50
DR-5133R —Double Contact Regulators (used with Delcotron Generators)	0.50

BOOKLETS

FILM BOOKLETS (For use with film kits)

DR-9010 —Introduction to Automotive Electrical System	0.20
DR-9011 —Delcotron® Generator and the Charging Circuit	0.20
DR-9015 —Regulation and the Charging Circuit	0.20
DR-9020 —20,000 Volts Under the Hood (The Ignition Circuit)	0.20
DR-9021 —Fleet Battery Care and Maintenance Program	0.35
DR-9025 —The Cranking Circuit	0.20

Delco-Remy, Con't

DEMONSTRATION Kit (One Take-a-Part Coil and Condenser) contains a complete set of the basic subassemblies required to build one ignition coil and one condenser.
Delco-Remy's Ignition Coil and Condenser Demonstration Kit (Package No. 1927461) . . $1.50 kit

FILM KITS (Includes 35MM Strip Film in Color, plus 33⅓ rpm Record)

		RUNNING TIME	UNIT COST
DR-9010K	—Introduction to Automotive Electrical System	22 min.	$7.50
DR-9011K	—Delcotron® Generator and the Charging Circuit	16 min.	6.00
DR-9015K	—Regulation and the Charging Circuit	12 min.	6.00
DR-9020K	—20,000 Volts Under the Hood (The Ignition Circuit)	12 min.	6.50
DR-9021K	—Fleet Battery Care and Maintenance Program (Expressly prepared for large fleet operations—contains 2 films, 2 records and related booklets)	19 & 23 min.	19.85
DR-9025K	—The Cranking Circuit	12 min.	6.00

HANDBOOKS (contain a collection of current Service Bulletins)

DR-324-1	—"Delcotron® Generator Charging Circuit" Maintenance	$2.00
DR-324-2	—"D.C. Charging Circuit" Maintenance	2.00
DR-324-3	—"Ignition Circuit" Maintenance	1.25
DR-324-4	—"Cranking Circuit" Maintenance	1.25
DR-324S	—Test Specifications—(D-R models prior to 1956)	0.40
DR-324S-1	—Test Specifications—(D-R models from 1956 thru 1963)	0.35
DR-324S-2	—Test Specifications—(D-R models after 1963)	0.35

MISCELLANEOUS

DR-5221	—Booklet—Periodic Maintenance and Circuit Checks	0.25
DR-9019	—Service Tips (Tune-Up Procedures for Distributors, Coils, D.C. Generators and Regulators) Accredited educational institutions allowed one copy of each without charge.	0.25
DR-9005	—Price List and Delco-Remy order blank showing complete list of all training aids as shown on this sheet	N/C

Price quotations on electrical units for classroom use will be furnished on request. Please specify type of units desired.

One desk copy of chart manuals and film booklets furnished without charge to accredited schools.

DeVilbiss Company
Division of Champion Spark Plug
300 Phillips Avenue
P.O. Box 913
Toledo, Ohio 43692

Literature

Technical Training School Handout Packet:

Contains information sheets on all aspects of spray painting including equipment methods, problems and special techniques. Also included are quizzes and worksheets for students.

Questions and Answers About Electrostatic Powder Coating

EHP-600 Manual Power Spray System Instructions

JGA Sprayguns Service Bulletin

EHG Electrostatic Handgun & EPS Power Supply Service Bulletin

Course in Spray Painting--Instructor's Manual

ABC's of Spray Equipment

Spray Gun Motion Study

Making the Most of the Spray Painting Method

Airless Spray

Catalog of Spray Equipment

Visual Aids

Slide set--spray systems, operation and use

Films:

"Making the Most of the Spray Painting Method"

"Airless Spray"

Overhead Transparency Masters -- Spray Gun Components & Spray Painting Systems

Training Schools

Available throughout the year. Write to John L. Conrad, c/o DeVilbiss for current schedule.

Echlin - Order through local NAPA jobber
Echlin Road and U. S. 1
Branford, Connecticut 06405

Technical Ignition Course for the Classroom

Slide Program

22 slides with one manual		$ 7.00

Manuals

28 pages - Illustrations and text	10 for	1.85

Wall Display

24" x 36" Display with cut-away parts	24.00

Complete Package

1 set of slides	
1 display	
20 manuals	$ 29.90

When a purchase is made of any of above materials, school is put on future mailing list for:

Technical bulletins
Samples of new materials
Notification of new slides and
Other new material

Edison Electric Institute
Marketing Division
750 Third Avenue
New York, New York 10017

PUBLICATIONS

Title and Number	Quantity	Price* (Including Shipping Costs) Members	Non-Members
Opportunities in Agriculture EEI Pub. No. 70F230	1	1.50	1.75
	2-15	1.25	1.50
	16+	1.00	1.25
Electromation in Agriculture EEI Pub. No. 70F231	1	1.00	1.25
	2-25	.55	.75
	26+	.30	.50
Electrical Data for Agriculture - Sold as a set only. Introduction Motors Materials Handling Irrigation Beef Dairy Swine Manure Disposal Water Requirements	1	9.00	11.00
	2-5	8.50	10.50
	6+	7.75	9.75
New Sections: (sold as a set) Wiring (revised) Electric Heating, Insulation Electric Water Heating Low Starting Torque Motors, Phase Converters	1 set	4.50	5.00
	2 or more	4.25	4.75
Agricultural Wiring Handbook EEI Pub. No. 71-72	1-5	2.25	2.50
	6-25	1.75	2.00
	26-99	1.00	1.25
	100 or more	.85	1.00
Electrical & Basic Controls Used in Agricultural Production EEI Pub. No. 66-42	1	4.00	4.75
	2-9	3.00	3.75
	10 or more	2.60	3.00
Grain Drying Manual EEI Pub. No. 61-25	1	2.00	2.75
Project Materials for Youth Group Workshop Activities EEI Pub. No. 66-428	1-9	1.25	1.50
	10-49	.75	1.00
	50 and up	.50	.75

Edison Electric Institute (Continued)

FILMS

Type	Title & No.	How Available	Price (Including Shipping Costs) Members	Non-Members
16 mm Motion picture	Electromation in Agriculture 8F236	Purchase only	$350.00	$400.00
44 slides & script	Water Systems EEI No. 7F233	Purchase only	32.50	36.00
75 slides & script	Electrical Uses in Agriculture EEI No. 9F253	Purchase only	65.00	70.00

Electric Energy Association
90 Park Avenue
New York, New York 10016

LITERATURE

Title & No.	Quantity	Price Members	Non-Members
Electric Gardening EEI No. 69-57	1-9	1.25	1.50
	10-99	1.00	1.35
	100-999	.80	1.20
	1000 & over	.65	1.00
Electric Motors for Agriculture			
Teachers Guide No. 70-27A	1	3.00	3.25
Student Manual No. 70-27	1	4.00	4.25
How to Throw Your Avoirdupois Around . . . . Accurately 71-F0230 M-1	1 set	2.30	2.50
	2 or more sets	2.10	2.25
How to County Your Profits . . . . Before They Hatch 71-F-231 N-1			
Complete Sets of Electrical Data for Agriculture (14 sections A-1 through N-1 in binder)	1 set	15.80	18.50
	2 or more sets	14.85	17.50

ETHYL CORPORATION
Petroleum Chemicals Division
1000 Chamber of Commerce Building
Houston, Texas 77000

MOTION PICTURES

Title (running time, date produced)	Delivered Price* Per Print B&W	Color
Automotive Emission Control (A.S., 25 min., 1969)		$105.50
Carburetor** (8 min., 1956)	$12.00	26.25
Cooling System** (A.S., 10 min., 1966)		40.75
Danger! Air!** (35 min., 1960)		157.50
Danger! Water!** (30 min., 1958)		127.50
Distributor** (A.S., 8 min., 1956)	13.25	30.25
Electrical System** (A.S., 7 min., 1956)	11.75	25.25
"Ethyl" Multi-Purpose Additive for Gasoline (10 min., 1957)		55.50
Fire Power** (20 min., 1971)		98.00
For Better Performance (15 min., 1955)		78.50
Fuel Injection** (A.S., 8 min., 1957)	12.25	27.25
Fundamentals of Fuel Knock (27 min., 1952)	51.50	
Gasoline for Everybody (13 min., 1938)	23.60	
Gasoline, Part I -- Volatility** (A.S., 8 min., 1956)	13.75	31.25
Gasoline, Part II -- Knocking & Preignition** (A.S., 8 min.,1956)	13.00	29.25
Good Valve Job Pays, A (23 min., 1951)	44.50	
Leaded or Unleaded Gasoline? The Facts And The Myths (29 min.,1971)		250.00
Long Road, The (20 min., 1936)	38.25	
Magic Circle, U.S.A. (14 min., 1960)	26.50	67.75
MPA Icing Engine (Lab version) (silent) (4 min., 1962)		30.25
MPA Icing Engine (Sales version) (4 min., 1962)		30.25
One Good Turn Deserves Another (7 min., 1953)	13.75	
Pick Your Tomorrow (20 min., 1954)		106.25
Positive Crankcase Ventilation (A.S., 16 min., 1966)		67.50
Preventing Carburetor Deposits (A.S., 7 min., 1958)		27.25
Preventing Carburetor Icing (A.S., 6 min., 1958)		24.25
Refinery Fire at Signal Hill, The (30 min., 1958)		122.50
Rumble in Gasoline Engines (8 min., 1960)		48.25
Safe Ups and Downs for Refinery Units ** *** (28 min., 1964)		111.00
Slow Motion Studies of Combustion, Knock & Preignition (9 min., 1954)	19.50	
Spark Plugs** (A.S., 6 min., 1956)	10.75	23.25
There Is A Difference (20 min., 1950)		113.25
To Set The Record Straight (30 min., 1971)		250.00
Treat Her With Care (10 min., 1964)		39.25
Valves** (A.S., 7 min., 1956)	11.75	25.25
You're The Doctor (rotator sequence version) (32 min., 1950)	55.50	

Note: A.S. means Automotive Series *Shipped by method of Ethyl's choice
** Available in Spanish *** Available in German

BOOKLETS

	Delivered Price* Per 100 Copies
Automotive Series brochures	$ 8.00
Facts About Gasoline	20.00
Story of Gasoline	75.00
Technical Notes	25.00
Which Way Am I Going?	6.50
Who's Wearing Your Face?	9.00

ESB Brands, Inc.
2000 East Ohio Building
P. O. Box 6949
Cleveland, Ohio 44101

Manual: Facts About Storage Batteries — free

Wall Charts: Parts and Assembly of a Lead-Type Storage Battery — free

How a Storage Battery Works — free

Film: The Story of the Modern Storage Battery

Order on school letterhead from:

Academy Film Service, Inc.
2110 Payne Avenue
Cleveland, Ohio 44114

Only cost is insured return postage

Fafnir Bearing Company
Division of Textron
37 Booth Street
New Britain, Connecticut 06050

Literature -- free

Product Information--Ball Bearings for a new generation of farm equipment

Fafnir Bearings for Agricultural Implements

Public Relations Department
The Firestone Tire & Rubber Company
Akron, Ohio 44317

EDUCATIONAL AIDS
THE FIRESTONE TIRE & RUBBER COMPANY

Rubber

A 32-page illustrated booklet covers the history, uses and social-economic importance of rubber; teacher's manual. Available in class quantities.

Building Firestone Tires

Illustrated booklet shows processing of a tire from raw material through finished product. Limited quantity.

Tips for Teen-Age Drivers

A twelve-page pamphlet pointing out importance of tires to safe driving. Available in classroom quantities for driver education classes.

A Class Studies Rubber

Color filmstrip shows how a seventh grade class studied a unit on rubber. Designed for higher elementary and junior high school grades. Discussion guide. Available on basis of one to a school.

Other informative booklets on specific products and programs of the rubber industry are also available.

FORD TRACTOR OPERATIONS
2500 East Maple Road
Troy, Michigan 48084

First, we can make available a six-piece wall chart package detailing our Model 5000 diesel tractor, 3- and 4-cylinder engines, 8- and 10-speed transmissions, and rear axle. The package can be ordered by writing directly to:

Mr. Gray Holcombe
A & M Lithograph & Printing
9330 Woodward Avenue
Detroit, Michigan 48202

In addition, we welcome your listing the availability of Ford Tractor power trains to qualified educational institutions under our current power train donation program.

The program is available to institutions offering either industrial (diesel) power or vocational agricultural mechanics instruction. Unfortunately, it is not available for use in auto mechanics instruction.

Among the major qualifications for donation are that the courses are in operation, and that they have a full-time instructor, a minimum of 20 students and a minimum of 20 hours of classwork each week. An additional requirement is that the units be limited to classroom work only. The power trains are three-cylinder 201-CID diesel or gasoline engines with an eight-speed transmission and a rear axle.

Of course, we seek to place power trains with those qualified schools who have not as yet received one of these units.

Instructors interested in such a donation should contact Mr. Roland Roberts at our Northeastern District office in Latham, New York. Mr. Roberts can be addressed as follows:

1 Mustang Drive, RD #1
P.O. Box 130
Latham, New York 12110

Incidentally, the wall chart package and other teaching aids accompany each power train donation.

While the Ford Film Library is not, at this time, offering loan of films of an agricultural nature, several of its current films do relate to vocational instruction and young people. Additional copies of the enclosed 1971-1972 library information-order form may be obtained by contacting the library in Dearborn, Mich. → see next page

Unfortunately, our supply of operator and service manuals, etc., is geared to the requirements of our dealership body. Hence, we are not able to make these materials available.

FREE LOAN — These motion pictures are 16mm with sound, and are available for group showings in the continental United States. Please send order at least FOUR WEEKS in advance of showing with an alternate date if possible.

USER'S RESPONSIBILITY — Films must be returned at user's expense within 24 hours after showing to address on reverse side of shipping label. Users are financially responsible for extensive damage.

PRINT PURCHASE — Films may be purchased at low cost. A price list will be sent upon request.

Ford Film Library
The American Road
Dearborn, Michigan 48121
Phone: 322-0010 (313)

THE AMERICAN ROAD — The transformation of America from a society of isolated farms and remote cities into a dynamic, industrial world power is the subject of this award winning motion picture. Contrasting film footage of early American life and modern superhighways provides a dramatic visual dimension to the revolution wrought by the Model T. Narrated by Raymond Massey. 35 min./black & white and color.

AUTO MECHANIC AND TECHNICIAN — Sophisticated automotive design and scientific testing instruments require the modern auto mechanic to be a highly skilled craftsman. This public service film details the opportunities and rewards of a career in this field and includes interviews with car dealers, instructors and mechanics. 23 min./color.

A CAR IS BORN — The modern automotive assembly line is one of the wonders of industrial innovation. Like a giant river with myriad tributaries, it absorbs 15,000 parts from foundries, glass plants, engine plants, stamping plants and other manufacturing facilities, and gives birth to a precision machine made to order for an American family. 27 min./color.

FORD FLAT OUT — Big league auto racing is shown as "a serious ritual, played on a summer afternoon, filled with thunder and grace" in this fast-action view of America's second largest spectator sport. Trans-Am sedans, drag racing's funny cars, the flair and spectacle of the Indianapolis 500, and stock car racing on super-speedways provide the thunder. 28 min./color.

LISTEN, LISTEN — An unusual and highly symbolic motion picture produced especially for high school students. It has but one objective: to motivate viewers to think how they will live their lives. The film employs a documentary style to show real people enjoying fulfilled lives. The underlying theme emphasizes that young people should stay in school at least through high school. 18 min./color.

HENRY FORD'S MIRROR OF AMERICA — Many of the men who shaped America's destiny in the early part of this century are featured in this film prepared from historical footage that is now in the National Archives. Men whom to many young people are simply names in a history text will come to life on the screen. John Burroughs, Thomas Edison, Harvey Firestone, Woodrow Wilson, Warren Harding, Will Rogers, Charles Lindbergh and many others appear during moments of work and relaxation. 36 min./black and white.

OFF ROAD ROUND-UP — Reviews major events in the fast-growing sport of "off-road" racing in which competitors often battle trackless wilderness as well as each other. The action varies from the lush, green countryside of Pennsylvania hill country to the arid wasteland of Mexico's Baja Peninsula. Cars, trucks, 4-wheel drive vehicles, motorcycles and dune buggies are the stars in this film which visits the Riverside Grand Prix, a Somerset, Pa. hill climb, the Stardust 7-11, the Mint 400 and the Mexican 1000. 27 min./color.

STEEL ON THE ROUGE — Ford's huge industrial complex on the River Rouge takes in iron ore and other raw materials on one end and yields finished automobiles on the other. A major portion of the complex is involved in the production of steel making, from Mesabi mines to rolled sheets ready for stamping. 19 min./color.

THE WORLD OF HENRY FORD — "Our progress is given continuity by men who see the needs of their time, and venture forth with courage and enterprise to change the world and make it better for all men — Henry Ford was such a man." Born in 1863, he grew up in an environment vastly different from the world of today. This film utilizes historic photographs and engravings to show that era. More recent photographs depict the advent of the automobile and the resulting transformation of society. A motion picture with appeal to all age groups. 35 min./color.

YEAR 1999 A. D. — This colorful motion picture explores the wonders of an almost totally controlled environment in the house of tomorrow — built from today's technology. Meals are cooked in seconds, the family's health is monitored electronically and learning becomes a pleasure for the children of this futuristic world. 26 min./color.

ELEVEN TOGETHER — A Search for Clean Air. An informative motion picture that, in non-technical language, describes the results of 11 companies to reduce automobile related air pollution. The film also refers to additional problems to be solved in order to meet the auto industry's objectives. 26 min./color.

THE SMITH SYSTEM OF SPACE CUSHION DRIVING — Professional driving instructor Harold Smith's 5 safe driving habits have proven to be among the most successful ever formulated. Millions of drivers have found Smith's approach a valuable guideline for accident-free motoring. This updated release shows how to: aim high in steering; get the big picture; keep your eyes moving; make sure they see you, and leave yourself an out. 18 min./color.

SO, YOU WANT TO BUY A GOOD USED CAR? — This public service film offers a useful formula for the used car buyer — particularly to a person making his first purchase. Faced with an array of choices, a young customer in the film first determines the type of vehicle he wants and the amount he wishes to spend. He then uses important visual inspection tips in making a selection. 15 min. /color.

DRIVER EDUCATION SERIES — Three NEW films designed to assist in teaching the importance of developing sound perceptual habits for accurate behind-the-wheel decisions:

I. **RURAL DRIVING** — speed relationships with other vehicles and roadway elements.
II. **DRIVING IN TRAFFIC** — Proper positioning for manuevering in traffic.
III. **CRITICAL DRIVING PATTERNS** — Maintaining vehicle control during loss of vision, loss of steering control or loss of braking.

AVAILABLE ONLY AS A SERIES — 10 min. ea./color. Teacher's guide for class discussion included.

General Electric Company
Educational Communications
570 Lexington Avenue
Room 901
New York, New York 10022

Pamphlet

Campus Monogram - free

Two issues published during the year presenting articles of interest to academic communities. Request copies from Editor at the above address.

Catalogues - both free

Publication List for Secondary Schools, Technical Institutes and Junior Colleges.

A complete list of materials available in guidance, science and electricity, space and tomorrow, appliance purchase plans, industry and technology, electronic courses and general interest.

Publication List for Universities

List of materials available in engineering, mathematics, physical sciences, finance and accounting and general interest.

General Scientific Equipment Company
Limekiln Pike and Williams Avenue
Philadelphia, Pennsylvania 19150

Catalogue of Safety Equipment (#GS-371) free

Gravely Corporation
One Gravely Lane
Clemmons, North Carolina 27012

Service Manuals	Price
Convertible 7.6 Service Manual	$ 1.00
424, 430, 432, 450 Service Manual	1.00
408 Service Manual	1.00
816 Service Manual	1.00
Commercial 10, Commercial 10A, Commercial 12 Service Manual	1.00

Goodyear Tire and Rubber Company
Local Dealers

Manual: Farm Tire Handbook	free
Pamphlets:	
Truck Tire Data	free
Goodyear Auto Tires	free
Goodyear Radial-ply tires	free
Charts:	
Consumer Tire Guide	free
Tires for More Profitable Farming	free
Goodyear Auto Tires	free
Passenger Tire Application Guide	free
Farm Tire Liquid Weighting Calculator (form of a circular slide rule)	free

International Harvester Company
401 North Michigan Avenue
Chicago, Illinois 60611

Literature

Catalog of Service Manuals

Contains a list of titles and prices of all International Farm and Industrial Equipment service manuals. A copy of the first page of the catalog follows this one. The manuals listed here are of a general nature and samples reviewed appeared to be of excellent quality. They are similar to the John Deere FOS manuals but are more condensed and cheaper in price. After this first page, the rest of the service manual catalog lists manuals for specific models of IH equipment.

IH Farm Magazine

May be received free of charge four times per year by request addressed to Mr. Joe Mann, Advertising Department, International Harvester Company at the above address.

Visual Aids

Tractor Maintenance Motion Pictures

International Harvester Company has just released two 14-minute duration motion pictures dealing with the maintenance of farm and industrial tractor electrical and cooling systems.

Primary purpose of the two PAR (Prevent-Adjust-Remedy) films is for showing to the various farm youth organizations such as the Future Farmers of America, Young Farmers Association, 4-H Clubs and Vo-Ag classes.

Copies of the PAR program films are avilable for loan by International Harvester Company farm and industrial equipment district offices located throughout the country.

Inquiries for loan of the films and available dates for showing should be directed to the attention of the service supervisor at any of the IH district offices. It is suggested that the local IH dealer be contacted for the address of the district office to which the request should be directed.

Visual Education, Inc. of Washington, D.C. handles most of the visual aids from IH. A list of these materials is included with those from International Harvester. Such aids should be ordered from Visual Education and not IH.

BASIC MANUALS

Hydraulics	GSS-1277-Z	1.50
Electrical	GSS-1310	2.00
Ball and Roller Bearings	GSS-1329-A	1.00
Horsepower and Its Measurement	GSS-1363	.50

HYDRAULICS (General)

Hydraulic Valves and Systems	GSS-1278-A	1.50
Hydraulic Pumps	GSS-1279	1.00
Hydraulic Trouble Shooting and Test Procedure	GSS-1280	1.00
Hydraulic Cylinders	GSS-1284	1.00

MISCELLANEOUS

Testing and Servicing Electrical Equipment	GSS-1052-C	$2.00
Clutches (Spring Loaded)	GSS-1281-D	1.00
Electrical Specifications and Wiring Diagrams (Tractors Built Between 1962 & 1967)	GSS-1308-C	1.50
Carburetor Specifications (Tractors Built Prior to 1961)	GSS-1309	.50
Tractor Maintenance and Tune-up	GSS-1333-A	1.50
Engine Tune-up Specifications Handbook (Machines Built Prior to 1963)	GSS-1356	2.50
Measuring Fuel Consumption on Diesel Engines	GSS-1393	.50
Torsion Bar Sensing Hitch Adjustments Handbook	GSS-1403	.50
Engine Tune-up Specifications Handbook (Machines Built in 1968 and Later)	GSS-1414	7.00

REFRIGERATION AND CREAM SEPARATORS

Home Freezers (1952-1955)	GSS-1177	2.00
Air Conditioners (1953-1956)	GSS-1178	2.00
Refrigerators (1953-1955)	GSS-1191	.50
Cream Separators, 2F, 3F, 3G and 4F	GSS-1193	1.00
Operator's Cab Air Conditioners	GSS-1385	1.50

VISUAL EDUCATION, INC.
Suite 819—Southern Building
1425 H Street, N.W.
Washington, D. C. 20005 202-628-1321

Slide Sets

Each of the following is a technical treatment of the subject and is accompanied by a Manual or Script -

APPLIED HYDRAULICS	37 slides	$11.00
BALANCED HEAD MOWER	28 slides	9.00
BALANCED PITMAN MOWER	6 slides	3.00
BALERS & BALER KNOTTERS	50 slides	14.00
BASIC HYDRAULICS	39 slides	11.2
CORN HARVESTING EQUIPMENT	27 slides	8.50
GRAIN COMBINES	29 slides	9.50
HAYLAGE	33 slides	10.00
HYDRAULIC SYSTEMS FOR GRAIN HARVESTING	23 slides	7.50
ROW CROP PLANTERS	50 slides	14.00

YOUTH OPPORTUNITY IN AMERICA - AGRIBUSINESS. Deals with the amazing spread of opportunities that exist for the properly trained and/or educated boy or girl in the world of Agribusiness. Two 80-slide sets are accompanied by a beeped tape and an extensive teaching unit. ($59.50)

Filmstrips

Each of the following is a technical treatment of the subject and is accompanied by a multi-colored Manual/Script.

BASIC HYDRAULICS	70 frames	$ 6.00
CLUTCHES	11 frames	4.25
FUNDAMENTALS OF ELECTRICITY	112 frames	8.00
HYDRAULIC CYLINDERS	32 frames	4.75
HYDRAULIC PUMPS	12 frames	4.25
HYDRAULIC VALVES	50 frames	5.75

16 mm. Sound Motion Pictures

BALANCED HEAD MOWER, 10 min., color	$56.50
THE BALER-KNOTTER, 11 min., color	47.00
THE DRY TYPE AIR CLEANER, 9½ min., color	56.50
MAKE THE BEST OF IT, 25 min., color (Lawns and foundation plantings)	106.50
MODERN GRAIN COMBINES, 8 min., color	46.50
MODERN PITMAN MOWER, 6 min., color	26.50
ROW CROP PLANTER, 6½ min., color	34.50
TRIBUTE TO A CHAMPION, 14½ min., color (Corn harvesting equipment)	62.50

Irwin Auger Bit Company
92 Grant Street
Wilmington, Ohio 45177

Pamphlet: How to Select and Care for Wood Bits

Chart: How to Know the Size of a Bit

Both items free in multiple copies when requested on school letterhead.

JACOBSEN MANUFACTURING COMPANY
1721 Packard Avenue
Racine, Wisconsin 53403

We have made available for instructional purposes, an Institutional Package consisting of one of our Jacobsen two cycle 3 H.P. engines, one Jacobsen Engine Repair Manual, one Jacobsen Special Tool Kit, and a Jacobsen 321 Cutaway Engine Poster at $45.00 net F.O.B. Racine, Wis.

The Engine Service Manual shows the following features and other detailed information:

All models of the Jacobsen 321 engine are covered. Both horizontal and vertical types are discussed. The manual includes an explanation of how horsepower and torque figures relate to engine ratings and capacities, a discussion of two-cycle engine theory, detailed service data, a comprehensive troubleshooting guide and complete overhaul and maintenance instructions. Every thing has been arranged for easy reading and quick reference.

All disassembly, inspection, repair and reassembly instructions are set out in a step by step sequence. Every procedure has been shop-tested in the Jacobsen Product Training Center and approved by the Jacobsen Engineering Staff.

If your school is interested in purchasing the Institutional Package, simply send a purchase order, check or money order, payable to Jacobsen Mfg. Company to the attention of the Product Training Center and we will see that immediate shipment is made. Order by part number 500564.

IN AUGUST OF 1972 THERE WILL BE A COMPLETE SET OF 35 MM COLOR SLIDES AVAILABLE TO USE WHEN CONDUCTING TRAINING PROGRAMS ON ENGINES WHICH WILL CORRESPOND WITH THE "321 ENGINE SERVICE MANUAL". Note: Detailed information and prices for the slides will not be available until August, 1972.

For additional information concerning Small Gasoline Engines, we suggest you contact the Outdoor Power Equipment Institute Inc., Walker Building in Washington D. C. 20005.

We will be having service schools starting in October, 1972, and a copy of our brochure from last year is attached which will give you an idea of what our schools cover.

WHO MAY ATTEND THE TRAINING SCHOOL?

- Jacobsen Distributor Personnel
- Jacobsen Service Station and Dealer Personnel
- Golf Course, Park, and Highway Commission Jacobsen Personnel
- Instructors and Students

WHERE IS THE SCHOOL HELD?

At Jacobsen Manufacturing Company, 1721 Packard Avenue, Racine, Wisconsin 53403.

WHAT IS THE COST?

Tuition is $45 per student for each course including lodging. Without lodging it is $15.00.

NOTE: A check or money order **must** accompany each application **before application** will be **processed.** Please make payable to Jacobsen Manufacturing Company. At least two (2) weeks notice must be given on request for cancellation and refund.

WHAT ABOUT RESERVATIONS?

If lodging is required Jacobsen Manufacturing Company will make the necessary reservations.

NOTE: Double occupancy is standard. Single is extra, student arranges with motel upon arrival.

WHAT IS THE LENGTH OF EACH COURSE?

All courses start at 8:00 A.M. Monday and terminate as follows:
Service Manager Turf Distributor—
Thursday 1 P.M.
Service Manager Consumer Distributor—
Thursday 4:30 P.M.
Salesmen Consumer Distributor—
Thursday 4:00 P.M.
Dealer Servicemen—Wednesday 4:30 P.M.
Golf and Park Servicemen—
Wednesday 4:30 P.M.

For the return air reservations out of Chicago allow 2½ hours after departure from Racine. For the return flight from Milwaukee allow 1 hour.

WE DO NOT FURNISH TRANSPORTATION

WHAT DOES JACOBSEN FURNISH?

1. Lodging starting Sunday evening and continuing through the duration of each course
2. Meals
3. Transportation
4. Materials

COURSE AGENDAS

SERVICE MANAGER — TURF DISTRIBUTOR — 3½ DAYS
Material covered: Plant tour, parts list, price list, manuals, warranty, Greens King, Commercial 60 rotary, Hydraulics, F-133, Rogers Equipment, Kohler Engines, Marshallmatic hydrostatic transmission, training in teaching field service educational programs to be conducted by you at your distributorship, and a service managers forum. Note: Distributor personnel only.

SERVICE MANAGER — CONSUMER DISTRIBUTORS—3 DAYS
Material covered: Plant tour, parts list, price list, manuals, warranty, Mark II Riding Rotary, In-Line garden tractor, Kohler Engine, Marshallmatic hydrostatic transmission, Fix-jet carburetor, Training in teaching field service educational programs to be conducted by you at your distributorship and a service manager forum. Note: Distributor personnel only.

SALESMEN — CONSUMER DISTRIBUTOR — 4 DAYS
Basically the same as the Consumer Service Managers School but substituting sales training covering product features, techniques of selling, sales promotions and customer relations, for training in teaching field service educational programs. Note: Distributor salesmen only.

DEALER SERVICEMEN—3 DAYS
Material covered: Plant tour, manuals, parts list, warranty, engine class (theory and tear down), Mark II Riding Rotary, In-Line garden tractor. Note: Dealer personnel only.

GOLF AND PARK SERVICEMEN—TURF—3 DAYS
Material covered: Plant tour, engine class (theory and tear down), reel mower grinding (theory), transmission, clutches, hydraulics, and practical work on turf equipment.

Jacobsen Manufacturing Company, 1721 Packard Ave., Racine, Wis. 53403
Date

Reg. No. ___ of ___
Check Rec'd $ ___
Do Not Fill In This Box

Check =

APPLICATION FOR JACOBSEN PRODUCT TRAINING SCHOOL

PLEASE PRINT

Name _____

Employed by _____

Employer's Address _____

City _____ State _____ Zip ____

Home Phone No. Area Code _____ _____

School Course No. 1st Choice _____ 2nd ____

Dear Mr. _____

We hereby confirm your application for Course No. _____ which starts at 8:00 A.M. Monday _____ Check Rec'd. $_____

NOTE. MARK YOUR CALENDAR NOW!!!

You have been registered with___ without ___ lodging. NOTE: If you are registered with lodging you may check in Sunday afternoon at the Uptowner Motel, 1719 Washington Avenue, Corner of Washington and Packard Avenues which is only two blocks north of the Jacobsen Manufacturing Company.

HOW TO GET TO RACINE:
WE DO NOT FURNISH TRANSPORTATION

Fly to Chicago O'Hare Field or Milwaukee Mitchell Field. Take a rental car to Racine. Without a rental credit card a $50.00 deposit is required. One way cost from Chicago is $25.00, from Milwaukee $15.00.

Driving from Chicago O'Hare Field: Take Tollway 294 North to interstate 94. Proceed north on 94 into Racine County. Turn right (east) on Highway 20. It is a one hour drive from O'Hare Field.

Driving from Milwaukee Mitchel Field: Take Highway 38 left (south) to Highway 31 located in Racine County. Turn right on Highway 31. Proceed to 20. Turn left (east) on Highway 20. Your motel is located on Highway 20 in Racine. It is a 35 minute drive from Mitchell Field.

Thank you

A check or money order must be enclosed before application will be processed.

Kohler Company
Kohler, Wisconsin 53044

Owners Manuals - all free

Two-Cycle Engines, models: K295-1, K309-1, K335-1

Two Cycle Engines, Models: K340-2, K399-2, K440-2

Engines, model K91, K141, K161, K181

Engines, model K241, K301, K321

Catalogue of Service Publications - free
Contains a complete listing of owners manuals, engine service manuals, engine parts manuals, engine master manuals, school kits, electric plant manuals, manuals for discontinued equipment, marine service file and technical information series.

Kohler Service and Sales Directory - free

Introduction to Engine Power - free
An outline developed as a guide toward building a small engine power course.

Kohler Engines Catalogues - 2-cycle and 4-cycle engines. - free.

TECHNICAL INFORMATION SERIES

ELECTRICAL

Basic Electricity	T.I. Series No. EL-1
Wiring Systems	T.I. Series No. EL-2
Control of Electricity	T.I. Series No. EL-3
Measuring Electricity	T.I. Series No. EL-4
Magnetism	T.I. Series No. EL-5
Voltage Regulation	T.I. Series No. EL-6
Motor Starting	T.I. Series No. EL-7

ENGINE

Principles of Operation and Assembly	T.I. Series No. EN-1
Magneto Ignition Systems	T.I. Series No. EN-2
Gaseous Fuel Systems	T.I. Series No. EN-3
Battery Ignition and Electrical Systems	T.I. Series No. EN-4

GENERATOR

Rotating Armature - Direct Current	T.I. Series No. GE-1
Rotating Armature - Alternating Current	T.I. Series No. GE-2
Revolving Field - Alternating Current	T.I. Series No. GE-3
General Information	T.I. Series No. GE-4

INSTALLATION

Stationary Duty - Electric Plants	T.I. Series No. IN-1
Marine Electric Plants	T.I. Series No. IN-2

BASIC SCHOOL KIT — FREE

Contains: 21 copies of basic Technical Information Manual, EN-1. This manual gives basic engine operating theories and outlines the simple procedure for Kohler Engine assembly.
2 Single Cylinder Engine Service Manuals. This is the complete mechanic's service manual giving all specifications, tolerances and torque information.
An assortment of Owners Manuals.
Engine descriptive sales catalogs and miscellaneous sales literature.

OPTION KIT - BK-1 — $ 2.50

Contains: Color strip film entitled "Single Cylinder Assembly". This strip film is to be used in conjunction with the basic Technical Information Manual, EN-1, which has the script to be used for each of the frames.

OPTION KIT - BK-2 — $ 3.00

Contains: 21 copies each of three additional Technical Information Manuals, entitled:
Magneto Ignition Systems--Explaining theory and operation of magneto ignitions.
Gaseous Fuels--A thorough study of gas fuel systems as related to small single cylinder engines.
Battery Ignition Systems--The theory and operation of battery ignition systems and how they differ from magneto ignition systems.

OPTION KIT - BK-4 (Deluxe School Kit) — $ 5.00

Contains: A basic kit
21 copies each of the three additional TI Books
Color Strip Film "Single Cylinder Assembly".
This kit has all the material necessary to develop a short course on basic single cylinder engine theory, operation, service and maintenance.

ENGINES FOR SCHOOL USE

Kohler Co. does not sell or donate engines directly to school systems. Please contact your local service outlet.

"ON TARGET" TRAINING KIT--Complete $ 12.00

Contains: A complete set of 15 color flip charts.
A complete set of 28 assorted black and white and color slides.
21 sets of 2 each training manuals.
One training manual contains text relating to the subjects covered on the flip charts. The second training manual contains text relating to the slides. The subjects covered include such new developments as Automatic Compression Release; new cranking, charging and ignition systems, including alternator equipped engines; new concepts in vertical shaft designs with special emphasis on the lubricating systems; and a dynamic balance system. There is also a section covering general maintenance which gives the participants an opportunity to review the engine operating basics.

"ON TARGET" OPTION KIT - A $ 7.50

Contains: A complete set of 15 flip charts.
21 Training manuals (Flip Chart)

"ON TARGET" OPTION KIT - B $ 7.50

Contains: A complete set of 28 slides
21 Training manuals (Slides)

2-CYCLE ENGINE TRAINING PROGRAM $ 25.00

Kohler 2-Cycle Engines are used in snowmobiles, all-terrain vehicles and other recreational equipment.

This program was presented by Kohler Service Training personnel throughout the country. While it pertains primarily to Kohler Engines, many of the subjects apply to all 2-cycle engines

The training package consists of:

- 46 slides--many in color
- 50 Trouble Shooting Manuals

KOHLER "TOTAL TRAINING" KIT--"A" $ 30.00

Contains: The Deluxe School Kit (Option Kit BK-4)

The "On Target" Training Kit--Complete

The 4-Cycle Engine Master Manual which gives complete engine service information on the entire line of Kohler 4-Cycle Engines.

KOHLER "TOTAL TRAINING" KIT--"B" $60.00

Contains: The Total Training Kit--A (Described above)

The 2-Cycle Training Program

The 2-Cycle Engine Master Manual which gives complete engine service information on the entire line of Kohler 2-Cycle Engines.

This kit can be used to supply a complete small engine training course from the beginning basics, workshop laboratories, and advanced theory classes.

Parts Manual

This manual provides a simple, fast method of parts identification. Clear-cut exploded view drawings, plus detailed drawings of engine sub-assemblies and accessories, are used throughout . Parts listings are in large, easy-to-read type. Detailed descriptions and sizes are given where needed. Your employees can learn to use the book in a few minutes time by following the well illustrated directions.

Service Manual

This manual contains complete and detailed information on the operation, maintenance and service of each Kohler Engine model. It is liberally illustrated and easy to read.

Step by step instructions outline the adjustment and repair procedures for carburetors, ignition systems, governors and other accessory equipment. Disassembly, reconditioning and reassembly of the engine are carefully described.

Service men will find this section a valuable reference book. Equally important, it will simplify the training of employees.

The manual, complete with binders and index dividers, is $15.00. A nominal subscription fee is charged annually which entitles the manual holder to updating service.

LAWN-BOY
A Division of Outboard Marine Corporation
Galesburg, Illinois 61401

NEW LAWN-BOY ENGINES

Standard Engine

The new LAWN-BOY Finger-Tip Start, 2-Cycle Engine ('D' Series) is available to schools at a special price of $32.50. For your information this is the same engine that we furnish to our Service Organizations for $57.50. Part Number 679419.

Solid State Ignition Engine

Same as above, but with Solid State capacitor/discharge ignition system. Part #679905, $32.50.

PORTABLE ENGINE MOUNT

A Portable Engine Mount (part #677391) is also available at an additional cost of $3.50 each. The engine mount can be bolted to a bench or placed in a vise to hold the engine.

LAWN-BOY SERVICE MANUAL

Many schools who purchase our engines are also interested in obtaining a LAWN-BOY Service Manual. It contains Service and Repair information on all the engines and products we have manufactured since 1952. The manual can be ordered direct from our factory at a net price of $8.50 (with binder - part #603797) or $5.00 (without binder - part #604166.)

LAWN-BOY MECHANIC'S HANDBOOK

This handbook covers service, maintenance, and repair of LAWN-BOY Engines and Power Mowers. It also contains sections on 2-Cycle Engine operation, trouble shooting chart, etc. Designed with the teaching of power mechanics in mind, this handbook is available for a net price of $1.00 (#6015.)

LAWN-BOY SLIDE SETS

We have asked our Service School Instructor to have copies made of the slides he uses in teaching our Service Dealers theory and repair of 2-Cycle engines.

Our 2-Cycle vs. 4-Cycle Program consists of 25 Color Super Slides and can be supplied to you at a cost of $13.00 under part number 402-53.

Standard Engine

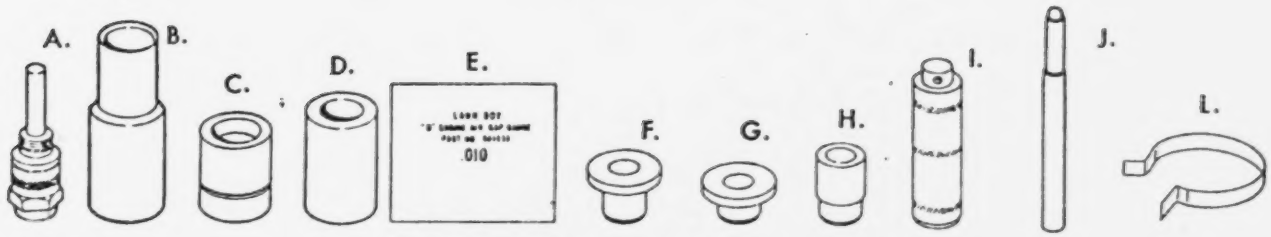
Our "D" Engine Teardown Program contains 80 Color Super Slides and can be obtained under part #402-74 for $30.00.

Solid State Ignition Engine

Slide Set (80 slides) for Solid State Engine teardown part #402-77, $25.00.

Lawn-Boy Con't

SERVICE TOOLS



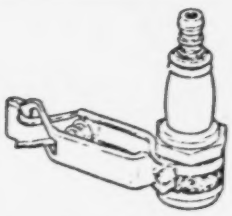
SERVICE TOOL KIT "C" AND "D"

Part No. 678288 $12.35 Net

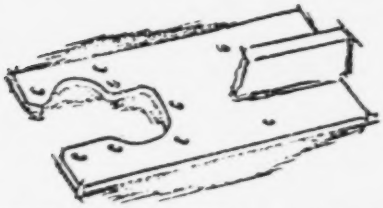
Tools for complete overhaul on all "D" series engines. Set includes following tools which may be purchased separately.

	NET PRICE
A. Piston Stop, Part No. 677389	$ .50
B. Crankshaft Guide, Part No. 602887	.75
C. Governor Adj. Gauge, Part No. 602885 "C" Series	2.00
D. Governor Adj. Gauge, Part No. 604541 "D" Series	2.00
E. Air Gap Gauge, Part No. 604659 (For "D" Coils & CD Pack)	.50
F. Seal Installer, Part No. 605080	1.00
G. Bearing Installer, Part No. 605081	.75
H. Bearing Remover, Part No. 605082	.75
I. Driver Handle for F, G, H, above Part No. 378737	1.35
J. Wrist Pin Knockout, Part No. 602884	.75
K. #21 Truarc Pliers, Part No. 277152 (not illustrated - see below)	1.55
L. Piston Ring Compressor, Part No. 426020	.45

Special Tools Not in Kit	
Spark Plug Removal Tool 3/4" *427973	1.05
Spark Plug Removal Tool 13/16" *425733	1.00



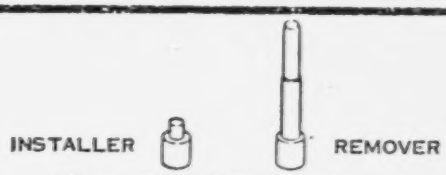
Test Spark Plug #426814 $2.84



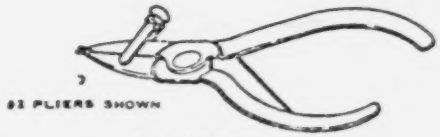
PORTABLE ENGINE MOUNT

Part No. 677391 NET PRICE $3.50

Special engine mount for holding "A," "C," or "D" series engines. Can be bolted to bench or mounted in vise.



Direct Drive Self-Propelled Models
Bearing Installer Part No. 608360
Bearing Remover Part No. 608361



TRUARC PLIERS

Very handy tools for replacing Truarc retaining rings on axles, shafts, etc.

#2 Pliers handle small Truarc rings. #43G Pliers handle larger Truarc rings.

	NET PRICE
#2 Pliers—Part No. 303858	$2.35
#43G Pliers—Part No. 603596	3.10
#52A Pliers—Part No. 604600	2.50
#21 Pliers—Part No. 277152	1.55

C.O.D. OR PREPAID ORDERS ONLY
ORDER DIRECT FROM OMC PARTS DEPOT
GALESBURG, ILLINOIS

ALL PRICES ARE F.O.B. FACTORY AND SUBJECT TO CHANGE WITHOUT NOTICE
SEE Confidential Discount Sheet for discount symbols.

JAMES F. LINCOLN ARC WELDING FOUNDATION
P. O. Box 3035
Cleveland, Ohio 44117

BOOKS	Per Copy Price 1	2-24	25 or more
New Lessons in Arc Welding	$2.00	$1.75	$1.25
New Lessons in Arc Welding – Spanish	3.00	3.00	3.00
Procedure Handbook "Eleventh Edition"	3.00	2.55	2.10
How To Read Shop Drawings	2.50	2.00	1.50

Arc Welding Instr. for the Beginner $2.00
Teachers Manual 1.00
Arc Welding Lessons for School and Farm Shop 2.00
Beginner's Packet (Contains Manual of Arc and TIG Welding, Arc Welded Projects for School and Farm) 2.00
Metals and How to Weld Them 2.50
Design of Weldments 5.00
Design Ideas for Weldments 2.00
Design of Welded Structures 7.00
Modern Welded Structures . . . . . Vol. 2 – 2.50
Vol. 3 – 4.00
Orthotropic Bridges - Theory and Design 5.00
Learning Arc Welding Skills –
3 Filmstrips (Color) 5.00
Special Welding Skills Filmstrips –
3 (Black and White) 3.00
Both Sets of Filmstrips (FS-1 & FS-2) 7.50

Detailed descriptions of these books are contained in a book catalog published by the Foundation. A copy of this catalog is available free on request. Use the Handy Order Form to request bulletin JFLF515.

STABILIZER — This magazine, published four times a year, is free to educators and men who are employed as welding operators or supervisors. It is for welding people who take pride in their work and wish to improve their ability. Contains helpful suggestions on how to use welding and how to weld more efficiently. Quantities available for student distribution on special request.

TITLES	PER COPY PRICES One	2-24	25 + over
Metals and How to Weld Them	2.50	2.00	1.50
Arc Welding Instructions For Beginners	2.00	1.50	1.00
Teacher's Manual	1.00	.50	.50
Arc Welding Lessons For School and Farm Shop	2.00	1.75	1.25
Beginner's Packet	2.00	1.75	1.25
*Manual Of Instruction For Arc and Tig Welding	1.00	.75	.75
**Arc Welded Projects For School and Farm	1.50	1.25	1.00
Learning Arc Welding Skills Films (Three Filmstrips in Color)	5.00	5.00	5.00
Special Welding Skills Films (Three Filmstrips in black and white)	3.00	3.00	3.00
Both Sets of Filmstrips	7.50	7.50	7.50

COURSES AVAILABLE

BASIC COURSE $ 90.00
5 weeks of fundamentals.

ALLOY WELDING $ 50.00
2 weeks of alloy steel and hardsurfacing.

PIPE WELDING $ 100.00
2 weeks – welding all position.

Special Courses, available by arrangement only, include Tungsten, Inert Gas Welding and Semi-Automatic Submerged Arc or Innershield® Welding.

*Prices Subject to Change Without Further Notice

EDUCATIONAL & DESIGN AIDS	
Plastic Shield	$5.00
Welding Preheat Calculator	$1.00 each
Beginning Student Guide	10 for $1.00
Welding Guide	4 for $1.00
Set of Three Filmstrips	$15.00 each set

A series of three 35 mm filmstrips for use in vocational education, industrial arts, and apprenticeship training. Suitable for junior and senior high schools and adult classes.

145 color frames are used to present the three topics:
Electric arc welding and how it helps man
Selecting and using welding equipment safely
Practicing arc welding.

Price, set of three, $15.00

"THE PREVENTION AND CONTROL OF DISTORTION"

This 20 minute, 16 mm sound color film simply and dramatically explains the control of distortion in arc welding. This film is animated and was produced by Walt Disney Studios. The purchase price is $95.00.

For information on loan or purchase, request ED-86.

PAMPHLETS

Students' Guide for Lincoln Short Course in Arc Welding	15¢
Lincoln Welding School	free
Welding Qualification Tests	free
Designer's Guide for Welded Construction	free
Weldirectory of Electrodes	free

CHARTS

Welder Construction, Care and Maintenance	free
Electrode Selection and Identification	free

ARC WELDING COURSES

Lincoln offers a variety of courses in arc welding, each for various lengths of time and at various costs. Write Lincoln for specific information.

SPECIAL ARC WELDING COURSES FOR TEACHERS

We would be very pleased to have you participate in our Welding School Program for Teachers. This program is a one-week Teacher-Observer Course held at our Welding School in Cleveland.

During this session, you will act as an observer at the Welding School and be given an opportunity to develop your own welding skills. Our staff will be available to personally assist you in planning your course of instruction.

A new course is instituted every Monday of the year. You may choose the week that best suits your schedule. Please notify me as soon as possible of the week you wish to attend. Please submit the date you prefer and any alternate dates we could consider.

There will be no tuition charge. Your only costs are travel and living expenses. Housing arrangements may be made the morning of your arrival. I am sure you will find this program an outstanding contribution to the field of welding education.

Mr. George P. Byrne, Jr.
METAL CUTTING TOOL INSTITUTE
331 Madison Avenue
New York, N.Y. 10017

Metal Cutting Tool Institute Publications

METAL CUTTING TOOL HANDBOOK
1969 Edition $10.50

STANDARDS AND DIMENSIONS FOR TAPS AND DIES
1971 Edition 3.50

METAL CUTTING TOOL NOMENCLATURE
1963 Augmented Edition 3.00

MILLING CUTTERS AND END MILLS
Application and Sharpening
1969 Edition 1.50

DRILLING TODAY'S MATERIALS
1962 Edition 1.00

USE AND CARE OF GEAR SHAVING CUTTERS
1963 Edition 1.00

TOLERANCES FOR TWIST DRILLS AND REAMERS
1965 Edition ..... .75

DRILLED HOLES FOR TAPPING
1967 Edition ..... .55

All publications available at this office.

Educational Film Department
Millers Falls Company
Greenfield, Massachusetts 01301

16 mm Safety Film -- free loan

"A Split Second From Disaster"

This is a 14-minute public service film narrated by Chris Schenkel produced by Millers Falls to explain the shock hazards inherent in electric tools. It goes on to show how these hazards can be avoided.

Running time: 14:05
Full Color -- 16 mm Sound

Booklet

"A Split Second From Disaster"

Covers high points of the film.

National Farm & Power Equipment Dealers Association
2340 Hampton Avenue
St. Louis, Missouri 63139

Brochure

Careers in Farm and Power Equipment Retailing

National Auto Parts Association (NAPA)
10400 W. Higgins Road
Rosemont, Illinois 60018

Order through local NAPA jobber

Manuals:

Echlin Tune-Up Specifications	free
Champion Sparkplug Snowmobile Tips	free
Chain Saw Service Manual (SE-19)	$ 4.95
Small Engines Service Manual (SE-20)	4.95
Small Tractor Service Manual (SE-21)	4.95
Outboard Motor Service Manual Under 30 h.p. (SE-22)	4.95
Outboard Motor Service Manual Over 30 h.p. (SE-23)	4.95
Snowmobile Service Manual (SE-24)	4.95
Small Engine/Chain Saw Flat Rate Pricing Guide (SE-25)	3.95
Outboard Motor Flat Rate Guide (SE-26)	3.95
Mini-Bike Service Manual (SE-27)	5.95
Inboard/Outboard Service Manual (SE-28)	4.95

NAPA Automotive Career Training Manuals:

Engine and Fuel System (A.C.T.#1)	6.00
Automotive Electrical System (A.C.T.#2)	5.00
Chassis and Suspension System (A.C.T.#3)	5.00
Power Train System (A.C.T.#4)	5.00
Brake System (A.C.T.#5)	5.00
Cooling System (A.C.T.#6)	

Miscellaneous:

Echlin High Performance Ignition Catalogue	free
NAPA News (Seasonal Newspaper)	free
Automotive Careers Bulletin	free

Public Relations Department
AVCO New Idea Farm Equip. Div.
Coldwater, Ohio 45828

"Here and There with FFA", 16mm sound-color, 21 minutes. Shows outstanding accomplishments of FFA boys and chapters in many states.

"The Earth Is The Lord's", 16 mm sound-color, 13-1/2 minutes. A timely reminder to all people, both in cities and on the farm, of their responsibilities as stewards of the soil.

"Three Generations", 16mm sound-color, 27 minutes. Shows how modern farm equipment is made, and how one farm family is preparing for the future through improved farm mechanization and the use of more land.

"New Ideas in Livestock Production", 16mm sound-color, 26-1/2 minutes. The prologue includes short scenes of 32 recognized breeds of beef cattle, dairy cattle and swine. In rapid sequence, the film then moves to scenes at three successful livestock operations. The finale features the 1962 National FFA Livestock Award winner, showing how he started his projects and how they developed.

"Tried and New Ideas in the Storage of Forage", 16mm sound-color, 31 minutes. Shows how profit-minded farmers are getting bigger dividends from their hay. Several leading silage experts give their views on the good management practices required to get the most out of a haylage program. Film shows how farmers in many states have successfully made haylage for many years, and how they have profited through increased meat and milk production.

"The Challenge....LEADERSHIP, The Answer....THE FUTURE FARMERS OF AMERICA", 16mm sound-color, 27 minutes. How does a boy become a leader? The film answers this question as it tells the story of the opportunities available to more than 400,000 boys to develop their leadership abilities by participating in the Program of Work of more than 9,000 FFA chapters. First film ever to cover this subject.

AVCO New Idea, Con't

"All materials free. Request on school letterhead."

Advertising brochures - on all lines of equipment.

Local Plant Tours - Monday-Friday each week starting at either 9 a.m. or 1:15 p.m. Contact in advance.

Operator's Manuals for entire equipment line contain information on proper set up, adjustment and operation of the machine. Repair sections of the manuals contain guide lines for obtaining repairs through local dealerships and information on assembling and disassembling various parts.

Filmstrips with record

"The Steps to Service Shop Profit -- in two parts -- for training dealers to operate service departments profitably.

"Profit is Where You Find It" -- on dealership parts department management.

Some dollar figures used in the filmstrips are obsolete, but the principles explained are current.

Nicholson File Company
Advertising Department
Providence, Rhode Island 02901
Att: Mr. Robert P. Brolan

Manuals:

File Filosophy	free
Sawology	free

Wall Chart: A File for Every Purpose free

Request on school letterhead

C. E. Niehoff & Co.
4925 Lawrence Ave.
Chicago, Ill. 60630

ABC's of Motor Tune-Up

32 Pages, 8-1/2 x 10-5/8 — .50 per copy

The only known book to teach a procedure of motor tune-up from preliminary tests to final road testing. All aspects of a good electrical tune-up, including ignition, compression and carburetion, are profusely illustrated with photographs and diagrams so that even a cub mechanic can do a first class job.

Principles of Automotive Tune-Up

180 Pages, 5-3/8 x 8-1/2 — $1.00 per copy

A complete tune-up text book covering test equipment and all areas of the engine normally involved in a tune-up.

The first three chapters provide a basic understanding of the engine, carburetion, and electricity.

Ten chapters are devoted to a detailed description of the charging system, batteries, ignition system, etc.

Eight test equipment chapters are included covering the use of basic test equipment.

NIEHOFF DEALER BULLETINS:

Written periodically as an aid for the mechanic in his daily service work. The bulletins cover various subjects or problems encountered in engine tune-up. — .05 each

Bulletin No.

1. Getting the Most From Your Voltmeter
2. The Charging System - Simplified
3. Alternators
4. Ignition Points Tell the Story
5. Discontinued

Bulletin No.

6. Generator Field Current

7. Polarizing the Generator

8. Distributor Removal

9. Discontinued

10. Delco Alternator

11. 1963 G.M. Alternator Applications, Motorola Alternator

12. 1963 Ford Alternators, AL-1, AL-16M and AL-19M, T-63 Electronic Spark Plug Tester, T-45 Secondary Ignition Efficiency Tester, Aluminum Distributor Cap Inserts

13. Discontinued

14. Transistor Ignition Systems: Operation, Testing Procedures

15. 1964 Vehicle Timing Marks

16. Selecting the Alternator

17. Flashers: Description and Trouble-Shooting

18. Tune-Up - A Profitable Business, A New Approach to Compression Testing

19. Dual Breaker Points - Carburetor Adjustment - Belt Tension - Choke Tubes - Chevy's New Carburetor - Remote Cranking

20. Lubricating Breaker Points, Dodge Fusible Link, '65 Tempest Erratic Operation

21. Smog Control and Tune-Up, The Chevrolet Timing Mark, Ford's New Breaker Point Settings

22. Voltage Regulators, Fuel Filter Service, PCV Systems, Battery Polarity, Distributor Rotor Gap

23. The Ground Circuit, Old Habits, Foam Air Cleaners

24. Fan Belt Adjustment, Transistor Breaker Points, Disconnecting the Distributor Vacuum Line, A Healthy Alternator Hums, Do Not Tune an Overheated Engine

Inside the Alternator

A 40 minute, 35 mm film strip and record describing the functioning and testing of alternators. $10.00 per set

The film starts with basic electro magnetic principles and builds on this foundation to:

1. Voltage generation and control
2. Current generation and control
3. Diode action

Simple, quick, testing procedures are included to aid mechanics in diagnosing alternator charging system problems.

Point Set Manufacturing

A 16 minute, 35 mm sound slide film and record describing typical processes used in point set manufacture. $10.00 per set

Chart - Small Engine Tune-Up Specifications free

SPECIAL NOTICE

Sample copies of Niehoff educational books and bulletins will be sent to instructors for inspection if request is made on bonafide school stationery.

Payment must accompany all orders for extra copies. Shipments will be made prepaid via cheapest route. C.O.D. shipments and open billing requests cannot be honored.

NORTON COMPANY
Advertising Literature Section
Grinding Wheel Division
Worcester, Mass. 01606

ORDER FORM FOR "KNOW-HOW" BOOKLETS

We would like to order the following quantities of Norton "Know-How" booklets:

FORM	TITLE	QUANTITY
88	Products for the Stone Industry	_____
436	ABC's of Internal Grinding	_____
501	TUMBLEX Finishing	_____
517	Cutting-Off	_____
781	Toolroom Grinding	_____
1141	Disc Grinding	_____
1158	How to Select Wheels for Precision Grinding	_____
1340	Setting-Up Metal Polishing Wheels and Belts	_____
1405	Rough Grinding	_____
1508	Abrasives & Grinding Wheels	_____
1632	ABC of Surface Grinding	_____
1645	Roll Grinding	_____
1848	Thread Grinding	_____
2006	ABC's of O.D. Grinding	_____

Effective January 1, 1971, these booklets were placed on a share-the-cost basis. The price is $.25 per booklet with a minimum order per booklet of 50. There is no charge for handling or shipping. Single copies free when requested on school letterhead for teachers to review.

Purchase Order Number _____

Date _____

School Name _____

Street _____

City _____ State _____ ZIP_____

_____
Signature of Instructor

Onan
1400 73rd Avenue N. E.
Minneapolis, Minnesota 55432

Pamphlets - all free

Electric Generating Plants
Service Shop Layout and Equipment

Catalogues - all free

Onan "J" Line Engine - Generator Sets
Service and Parts - Series CCKB Industrial Engines
Service and Parts - Series CCK and CCKA Industrial Engines
Electric Generating Sets
Industrial Engines Tool Catalogue

Specification Sheets - for all Onan engines and accessories - free

Bulletins - free

Power Talks Series
Service Bulletins Series
Technical Bulletin Series

Portland Cement Association
A/V Communications Section
Old Orchard Road
Skokie, Illinois 60076

Write for the following free educational catalogues:

List of Literature

Contains listing of all types of publications in such subject categories as buildings, structural design, bridges, farm uses, paving, housing, soil-cement, water resources and general interest.

Motion Picture Film Rental Catalogue

Contains rental procedures and descriptions of films on concrete in the areas of accident prevention, environmental resources, farm, housing, paving, structural and general interest.

The Ridge Tool Company
400 Clark Street
Elyria, Ohio 44035

All free materials

Pamphlets:

How to Care for Your Pipe Tools
How to Use Pipe Tools

Catalogues:

Ridgid Catalogue (No. RT-165) Complete list of all tools
Ridgid Vises (#86)
Ridgid Drill Chucks and Power Tool Equipment (#S-444)
Ridgid Pipe and Drain Cleaning Equipment (#167)

Operator's Manuals and Parts Lists

Ridgid 300 Power Drive
Ridgid 535 Pipe and Bolt Threading Machine
Ridgid 700 Portable Power Drive
Ridgid Kollman Drain Cleaning Machines

Film: "The 300" - Covers power drive and attachments for threading, cutting and reaming. 22 minutes long. Free - return by insured mail.

Rockwell
Educational Department
Power Tool Division
400 North Lexington Avenue
Pittsburg, Pennsylvania 15208

List of Aids

Rockwell will provide upon request an 8 page list of "Aids for Industrial Education". This list includes descriptions and prices for each item. Space does not permit listing them all here, but some of the more popular items follow:

Films - Rockwell (AD-1815)

A series of 12-16 mm sound/color films on the following subjects are available on a free-loan basis through our film booking agency. Literature describing these briefly is available through Rockwell - along with the address of the nearest booking agency handling the films. The films available are:

Circular Saw
Planer
Metal Lathe
The Milling Machine
Jointer
Shaper
Cut Off Machine
The Uniplane
Band Saw
Grinder
Radial Saw
The TG-3 Grinder

(No Charge)

The following films are also available in super 8 mm cartridge loaded for technical 1000 projectors:

The Overarm Router/Shaper
The TG-3 Grinder
Rockwell Metal Lathes
The Uniplane
The Milling Machine

(No Charge)

These last five, however, can be obtained ONLY through our local District or Regional Sales Managers-NOT through our booking agency.

Notebook Charts (AD-1569)

8½" X 11" nomenclature and safety charts, three ring punched for student notebooks. Each set contains 20 copies of all 24 charts, or 480 sheets. The cost breaks down to 15¢ per student. These charts cover both portable and stationary tools.

(Sold only in sets = $3.00 per set)

Rockwell, Con't

Instruction Manuals

These popular, hard-bound textbooks give students complete information and instructions on safety operations and use of accessories, practical shortcuts, and shop hints - including maintenance and adjustments for stationary power tools. These books are available covering the following tools:

GETTING THE MOST OUT OF YOUR RADIAL SAW	(4706)	($1.20)
GETTING THE MOST OUT OF YOUR DRILL PRESS	(4700)	($1.20)
GETTING THE MOST OUT OF YOUR CIRCULAR SAW & JOINTER	(4701)	($1.20)
GETTING THE MOST OUT OF YOUR ABRASIVE TOOLS	(4702)	($1.20)
GETTING THE MOST OUT OF YOUR LATHE	(4703)	($1.20)
GETTING THE MOST OUT OF YOUR SHAPER	(4704)	($1.20)
GETTING THE MOST OUT OF YOUR BANDSAW & SCROLL SAW	(4705)	($1.20)
THE ROCKWELL ROUTER	(4714)	($1.20)
THINGS TO MAKE ON THE TOOLS YOU OWN	(4710)	($1.20)
PRACTICAL FINISHING METHODS	(4711)	($1.20)
ONE EVENING PROJECTS	(4712)	($1.20)
PROJECTS FOR OUTDOOR LIVING	(4713)	($1.20)

(School Price)

Flying Chips Magazine

This subscription magazine is aimed at the home workshop, school shop and professional woodworker. It is primarily a project magazine, but also contains other information concerning power tool instruction and safety. It is published six (6) times a year and subscription rates are as follows:

1 Year, 6 Issues = $ 1.22

3 Years, 18 Issues = $ 2.80

5 Years, 30 Issues = $ 4.20

(See above charges)

Flying Chips - Year Books

One complete year of issues - Hard Bound

1959 - $1.25	1963 - $1.90	School discount indicated.
1960 - $1.90	1968 - $1.90	Years not listed are not
1961 - $1.90	1969 - $1.90	available. Minimum order
1962 - $1.90	1970 - $1.90	must be for (4) four books
	1971 - $1.90	

(See above charges)

Reprints

A. "SCROLL" GENERAL SAFETY CHART - 8½ X 11 (No Charge)
10 Rules for shop safety

B. RETURN MY TOOLS CHART - 8½ X 11 (No Charge)
"I'D RATHER LOAN MY CAT"

C. A TOTAL PACKAGE APPROACH TO EQUIPMENT AND SHOP SAFETY - (No Charge)
Irvin - School Shop Magazine

Student Activity Charts (AD-1411)

This wall chart is printed with four separate charts on each side. The instructor actually has eight separate charts for his use in individual project completion ratings, or similar records.

(No Charge)

Power Tool Instructor

This magazine is published three times a year and is mailed free to Industrial Education teachers and directors throughout the United States. It is a professional-type magazine, and not an advertising sheet. Approximately 45,000 copies are printed, each issue containing articles by well-known educators and lead articles of interest to all Industrial Educators. Please request on your school letterhead, giving position, title or subject taught.

(No Charge)

IN PLANNING:

Planning Guide (AD-1731)

This planning guide entitled "School Shop Development" contains 10 concise chapters covering all aspects of shop planning - research and development. Although this is primarily a book of method and concept; it also offers equipment templates, bolt hole dimensions for Rockwell machines, and other practical planning information. Charge as follows:

One (1) through ten (10) copies ordered = $2.00 Each
Eleven (11) copies and over ordered = $1.00 Each

Templates

Four sheets, printed on one side only, with ½" scale templates of equipment, tools, benches, etc. covering most subject areas within Industrial Education.

(AD-1735) Scale Outlines of Rockwell Industrial Machines
(AD-1736) Scale Outlines of Allied Shop Equipment, benches, etc.
(AD-1737) Scale Outlines of Allied Shop Equipment, benches, etc.
(AD-1738) Scale Outlines of Allied Shop Equipment, auto, etc.

(No Charge)

Reprints

A. AMP RATING CHART. This 8½ X 11 amp rating chart gives the horsepower, revolutions per minute, & amp rating for both single & dual voltage Rockwell/Delta motors in single phase & three phase. This information is helpful to architects & educators involved in school shop planning, when figuring total amp draw, outlets, etc.
(No Charge)

B. WHY 208 VOLT - explains the reasons for 208V., by Mohringer (No Charge)

C. IN BEHALF OF THE RADIAL SAW - by Donnelly/School Shop (No Charge)

Reprints

A. EQUIPMENT: MAINTENANCE, CARE AND REPAIR - Editorial - Feirer - IAVE (No Charge)

B. SELECTION AND MAINTENANCE OF POWER TOOLS - Krubick - P. T. I. (No Charge)

C. LUBRICATING WITH HARD WAX - P.T.I. (No Charge)

D. WHAT TO DO ABOUT CAUSES OF POWER TOOL FAILURE, PORTABLE & STATIONARY - Irvin - Plant Engineering (No Charge)

E. ELECTRIC MOTORS - Industrial Distributor News (No Charge)

F. POWER TOOL MAINTENANCE - Irvin - Tie Line, Gregg Division, McGraw-Hill (No Charge)

G. NOTES ON TROUBLE SHOOTING (No Charge)

Parts and Instruction Manuals

Individual parts and instruction manuals accompany each machine on delivery. They are also available (free of charge) to replace lost manuals. Complete parts books are also available for use by maintenance personnel and directors.

(No Charge)

Parts Distributor Lists - Delta/Rockwell (AD-1492)

A complete list of all authorized Parts Distributors is given, including their address and phone.

(No Charge)

Factory Branch List (AD-1492)

This list contains the location and phone number of every Rockwell Factory Branch. In addition to the 34 branches, there are also 120 authorized Portable Tool Service Stations in the United States and Canada.

(No Charge)

Lubrication Chart

This 8½ X 11 chart, printed on both sides, gives lubrication suggestions for most Stationary Power Tools and Machine Tools. The advantages of dry lubricants such as hard wax are explained.

(No Charge)

SEARS, ROEBUCK AND COMPANY
Staff Offices, Dept. 731 A
925 S. Homan Avenue
Chicago, Illinois 60607
Attn: Lowell Peters, Service Engineer

Craftsman Power Tool "How To" Manuals:

Master Shop Guide (9-2911)	$3.49
Power Tools (9-2912)	1.79
Jointer-Shaper-Disc and Belt Sander (9-2916)	.49
Band Saw and Jig Saw (9-2919)	.49
Wood Lathe (9-2920)	.49
Drill Press (9-2921)	.49
How to Sharpen (9-2924)	.49
Metal Lathe Manual (9-2925)	3.99
Bench Saws (9-2929)	3.99
Radial Arm Saws (9-2938)	3.99
Arc Weld It Yourself Manual (9-20256)	.49
Oxy-Acetylene Weldor's Handbook (9-5411)	3.99

Prices quoted here are from the 1972 Sears Power and Hand Tool Catalog. Check the latest printing for current prices. Single copies of The Craftsman Manuals might be sent to individual teachers for review if requested on school letterhead.

Sears (continued)

Service Manuals:

Division 32, Basic Service Manual, Chain Saws, Source 917, Original, October 1966.

--Reprint Supplement 1, January 1968
--Supplement 2, February 1970
--Supplement 3, February 1971

Division 32, Basic Service Manual, Chain Saw, Source 745, Original, October 1969.

Division 32, Basic Service Manual, Roto Spaders, Source 785, Original, December 1971

Division 32, Basic Service Manual, Tractors and Attachments, Source 917, Original, February 1972.

All Divisions, Basic Engine Handbook, 2-Cycle, All Horsepower, Source 143, Original, November 1971.

All Divisions, Basic Engine Handbook, 4-Cycle, 2 through 8 H.P., Source 143, Original, November 1971.

All Divisions, Basic Engine Handbook, 8 H.P. and Larger, Source 143, Reprint: Original (December 1966) plus Supplement 1 (October 1969).

Siou$_x$ Tools, Inc.
2802 Floyd Boulevard
Sioux City, Iowa 51102

Manual:	Principles of Valve and Valve Seat Reconditioning	35¢
Pamphlets:	Valve Seat Grinding Instructions	free
	Specifications: Valve Seat Grinding Wheels and Pilots	free
	Tool Catalogue	free
	Master Price List	free

Six Educational Wall Charts

A series of six colorful wall charts give important information about welding tips, gas regulators, hand cutting tips, cutting tips, and cutting assemblies. Contains data designed to help in the selection of the right tip for the job. Graphically illustrates equipment design. Help in more efficient equipment operation, greater safety.

Set of six charts: $10
Order "Six Educational Charts"

SMITH WELDING EQUIPMENT
Division of Tescom Corporation
2633 South East 4th St.
Minneapolis, Minnesota 55414

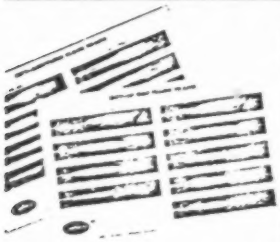
Welding, Cutting and Heating Library

Flame Cutting Facts

24-page booklet explains flame cutting. Gives basics of combustion; compares *equal pressure* torch with *injector* torch. Tells how to choose cutting tips. SINGLE COPY FREE, additional copies 25¢ each for shipping and handling. Order No. 378.

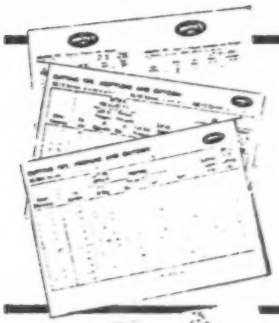
Gas Regulation Facts

20-page booklet tells how gas regulators work. Discusses importance of regulator flow capacities. Describes *single-stage* and *two-stage* regulators. Lists basic rules of safety. Dispels misconceptions about regulators. SINGLE COPY FREE, additional copies 25¢ each for shipping and handling. Order No. 388.



Flame Adjustment Wall Charts

Full color photographs show differences between carburizing *flames*, *neutral flames*, and *oxidizing flames*. One chart depicts oxy-acetylene flame traits, the other oxy-LP flame traits, each covers cutting tip flames and welding tip or brazing flames. FREE. Acetylene: Order No. 235 — LP Gas: Order No. 236.



Tip Selection Charts

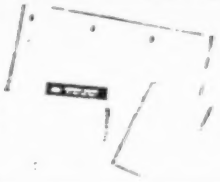
Series of three charts helps match tip to job. Covers heating tips, welding tips, oxy-acetylene cutting tips, oxy-LP cutting tips. Gives orifice sizes, gas pressure settings, and metal thicknesses. FREE. Acetylene Cutting: Order No. 269, LP-Gas Cutting: Order No. 270, Welding and Heating: Order No. 271.

Safety Fundamentals

Ten fundamental safety steps illustrated in use of flame cutting, welding, and heating equipment. FREE. Order "Gas Safety Fundamentals," Form 465.

Setting Up Safety Meetings

An outline of combustion fundamentals and ten basic safety rules for use in safety seminars. Illustrated. Written in short, easy-to-read terms. FREE. Order No. 233A.

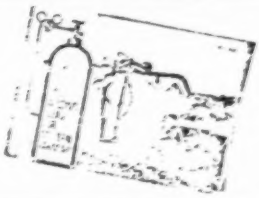


Pocket Guide To Tip Selection

Folds to fit shirt pocket. Convenient, helps teach students to choose the right tip for each job. Lists heating tips, welding tips, oxy-acetylene cutting tips, and oxy-LP cutting tips. FREE. Order No. 263.

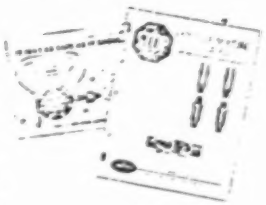
Setting Up Manifolds

A 12-page catalog of equipment and specifications for multi-station gas distribution manifolds. Contains basic *National Fire Protection Association* manifold safety standards. Shows typical duplex and simplex setups. FREE. Order No. 670.



Farm Welding Ideas

A 64-page booklet titled *139 GAS WELDING IDEAS FOR MODERN FARMING* contains ideas for converting scrap into useful, time and money saving farm helps. Contains tips and hints on efficient, safe welding practices. 25 cents. Order No. 332.



Two Equipment Brochures

Saf-T-Pak Regulator—Features Smith's Saf-T-Pak regulator. Outlines reasons for Saf-T-Pak. Shows detailed cutaway in color of the single stage regulator. FREE. Order No. 393.

Safety Check Valve—Describes Smith's Safety Check Valve. Contains detailed cutaway and an outline of the safety features. FREE. Order No. 330.

Short Course for Gas Cutting, Welding, Brazing

A 24-page short course contains 6 lessons. Intro to equipment, cutting and flat butt welding of light material, the braze welding process, braze welding of cast iron, silver brazing, and hard-surfacing. Price: Single copy free, additional copies @ 25¢ each.

Instructor's Manual

A 36-page manual contains 28 lessons. Covers oxy-acetylene brazing, cutting and welding. Used by instructors of college, industrial arts, vocational and high school students. Fully illustrated. Contains discussion topics and test questions. Price: 50c. Manual: Order No. 424, Answer Sheet: Order No. 429 (Free).

SOUTH BEND LATHE COMPANY
South Bend, Indiana 46623

BOOKS AND CHARTS ON MACHINE SHOP PRACTICE

Catalog No.	Description	Price Postpaid
CE3450	"How to Run a Lathe", English (paper)	$1.00
CE3452	"How to Run a Lathe", Spanish	1.00
CE3453	"How to Run a Lathe", French	1.00
CE3454	"How to Run a Lathe", Portuguese	1.00
CE3455	"How to Run a Drill Press", English	.50
CE3456	"How to Run a Shaper", English	.50
CE3475	"Machine Shop Projects Book", English 104 pages, 34 projects	1.50
CE3459	"South Bend Machine Shop Course", Portuguese	1.00
CE250	Chart, "How to Become a Machinist", English	.25
CE777	Chart, "Decimal Equivalents", English	.25
CE890	Chart, "Principal Parts of a Lathe", English	.25
CE3465	"Principal Parts of a Lathe", Quiz Sheet, Pkg. of 100 copies	1.00
CE199	Chart, "Tap Drill Sizes", English	.25

QUANTITY DISCOUNT:

A 25% discount from the above prices will be allowed on orders totaling 25 copies or more in any combination and shipped to a single address. On quantity orders earning discounts, transportation charges are paid by customer.

WHERE TO PLACE YOUR ORDER:

In order to render prompt service we ask that you place your quantity orders with our distributor located nearest you.

Category	Cost Per 100
GENERAL INFORMATION	
Home Buyer's Guide to Value Homes --- eight color pages showing new and improved designs for exposed and conventional framing, patio decks, rough sawn siding and paneling.	$15.00
It's the Seasoning That Counts --- recipe booklet with appeal for gourmet tastes, including famous New Orleans and Southern specialities.	$15.00
How to Build Storm Resistant Structures --- illustrated account --- based on Hurricane Camille experience --- of how to properly anchor and fasten wood frame structures for maximum wind resistance. Special section on design of elevated wood pole-frame structures for low-lying areas subject to tidal action.	$25.00
Case Histories --- (each of the following publications presents design data on a specific structure with unique advantages in its field)	
An Award Winning Youth Camp --- featuring naturalness, simplicity and economy.	$ 6.00
Wood That Will Resist Fire --- fertilizer storage facility using glued laminated lumber for resistance to fire and corrosion.	$ 6.00
A Unique Nursing Facility --- efficient wood frame structure, built at relatively low cost, which withstood Hurricane Camille's 200 mile-an-hour winds.	$ 6.00
Brighton Manor Apartments --- attractive Tudor-style building, wood-framed and finished with rough sawn siding.	$ 6.00

Category	Cost Per 100
GENERAL INFORMATION	
Case Histories (cont'd)	
Multi-Purpose Student Facility --- unique example of engineered timber construction in educational field.	$ 6.00
Weekend Retreat Home with African Accent --- built at cost of $7.45 per square foot with exposed rough sawn Southern Pine beams.	$ 6.00
Simplest Solution to Low Cost Housing Needs --- plans and specifications for simplified wood frame system which combines quality with economy.	$20.00
The Chalet --- plans and material listing for A-frame leisure home.	$10.00
VACATION HOMES	
Leisure Home of Southern Pine --- eight-page brochure with color illustrations and description of available plans listed below:	$10.00
Leisure Homes Plans	
Budget Price Dream House --- can be built easily by experienced amateur carpenter.	35¢ ea. 3 for $1.00
Rigid Frame Cabin --- 480 square feet of wide-open interior space plus 176 square foot porch under roof.	35¢ ea. 3 for $1.00
"Convertible" Second Home --- planned for two stage development and conversion to year-round dwelling.	35¢ ea. 3 for $1.00

SOUTHERN FOREST PRODUCTS ASSOCIATION
P. O. Box 52468, New Orleans, La., 70152

Category	Cost Per 100
VACATION HOMES	
Leisure Homes Plans (cont'd)	
Ranger A-frame Cabin - - - with patio deck, kitchen, bath, living room and sleeping balcony.	35¢ ea. 3 for $1.00
Woodsy Hide-Away - - - can be put together like erector set in less than a week with precut parts.	35¢ ea. 3 for $1.00
Three-Stage Beach Cabin - - - luxury camp designed for easy addition as budget permits.	35¢ ea. 3 for $1.00
TECHNICAL LITERATURE	
Technical Bulletins - - - (series presenting design and specifications data primarily for use of architects, engineers and builders)	
1. Grade Use Guide - - - illustrations, grade recommendations, sizes, and specifications for wide range of uses.	$25.00
2. Maximum Spans for Joists and Rafters - - - simplified system for determining allowable joist and rafter spans for Southern Pine lumber. Design criteria, loads and deflection limitations, tables and conversion diagram.	$25.00
3. Timber Columns - - - formulas, size tables, l/d ratios, grades and design data.	$12.00

Category	Cost Per 100
TECHNICAL LITERATURE	
Technical Bulletins (cont'd)	
4. Rough Sawn Southern Pine Siding - - - 12 color pages illustrating designs and patterns with data on application, nailing, finishing and specifications.	$25.00
6. Preservatively Treated Southern Pine - - - jointly published by SFPA and American Wood Preservers Institute, covers specification of preservatively treated products for various uses. Full color illustrations.	$25.00
7. Fastenings for Lumber - - - various types of fastenings described with criteria for selecting most appropriate for specific uses.	$12.00
8. Structural Glued Laminated Southern Pine - - - provides engineering data as basis for determining proper sizes, specifications.	$12.00
14. Decks, Patios, Fences - - - eight color pages of designs and working details with data on grades, pressure treatments, finishes and fastenings.	$25.00
WP/Series Moulding Patterns - - - simplified reference to all popular moulding patterns. Standard pattern numbers for all species.	50¢ ea.
Southern Pine Stud Grade - - - grade description and uses.	$ 2.00
Mechanical Fastening of Southern Pine — A Review - - - 98-page comprehensive study of how mechanical fasteners, such as nails, spikes, screws and bolts, may be used with Southern Pine timber, solid and laminated lumber, plywood and particleboard.	$ 3.00

SOUTHERN FOREST PRODUCTS ASSO., CON'T

Category	Cost Per 100
MERCHANDISING AIDS FOR BUILDERS	
SFPA's Value Homes Merchandising Kit is available to home and apartment builders who agree to use pre-shrunk Southern Pine framing and observe other conditions of quality. Interested builders may write in for brochure describing program and available sales aids. Kits are hand delivered by SFPA technical personnel to qualified builders. Individual copies of "A Success Story for Home Builders" - - - based on favorable public reaction to adoption of Value Homes as theme for Little Rock Parade of Homes - - - available on request.	
FARM BUILDINGS	
New Integrated Wood Component System - - - technical details on innovative component system for light commercial and farm buildings.	$ 8.00
Modern Farm Buildings - - - description of component systems utilizing trussed rafters, girders and prefabricated arch legs.	$ 8.00
How to Build Pole-Type Frame Buildings - - - design and technical data, proper pole alignment.	$ 8.00
Pole Frame Series - - - (floor plan with material listing)	
PF-101 Machinery Shed	$ 5.00
PF-102 Poultry Broiler	$ 5.00
PF-103 Bunker Silo	$ 5.00
PF-104 Hay and Rest Barn	$ 5.00
PF-105 Multi-Purpose Building	$ 5.00

Category	Cost Per 100
FOREST RESOURCE & ENVIRONMENT	
The South's Third Forest - - - abbreviated version of Southern Forest Resource Analysis report setting forth blueprint for most ambitious program of timber resource development and environmental improvement in history.	$11.00
The Southern Pine Story - - - history of Southern Pine lumber industry including past, present and prospective contributions to timber resource development and environmental improvement.	$16.00
Trees Forever - - - detailed written and pictoral study of SFPA program designed in conjunction with Third Forest program, to more intensively manage forests of the South.	$25.00
FILMS	
"Trees Forever" - - - series of five video tapes (4½ minutes each) for television use - - - concerning past, present and potential contributions of timber resource development by Southern Pine lumber industry to environmental improvement. Requires 2" video tape deck for playback.	Loan Basis
COLOR SLIDE FILMS	
"Let Forests Free The Environment" - - - 15-minute presentation on benefits of multiple-use forestry for various groups, including conservationists. While main showings to be conducted by SFPA field personnel, limited number of slide sets available for presentations by others.	Loan Basis

SOUTHERN FOREST PRODUCTS ASSO., CON'T

STANLEY TOOLS
Educational Department
P. O. Box 1800
New Britain, Conn. 06050

16MM SOUND-COLOR INSTRUCTIONAL FILMS
@ $150.00 ea. P/P

RF-1 The Router
RF-2 The Dovetail Fixture
DF-1 How To Hang A Door
HT-1 How To Use Measuring Tools
HT-2 How To Use Saws
HT-3 How To Use Planes
HT-4 How To Use Hammers
HT-5 How To Use Hand Boring Tools
HT-6 How To Use Chisels and Gouges
CS-7 Creative Sculpturing For Everyone (Part 1)
CS-8 Creative Sculpturing For Everyone (Part 2)
MS-9 The Metric System (Part 1)
MS-9 The Metric System (Part 2)

SUPER 8MM SOUND-COLOR INSTRUCTIONAL FILMS
(Instant loading cartridge fits Technicolor 1000 Sound Projector)
@ $150.00 ea. P/P

TRF-1 The Router
TRF-2 The Dovetail Fixture
TDF-1 How To Hang A Door
THT-1 How To Use Measuring Tools
THT-2 How To Use Saws
THT-3 How To Use Planes
THT-4 How To Use Hammers
THT-5 How To Use Boring Tools
THT-6 How To Use Chisels and Gouges
TCS-7 Creative Sculpturing For Everyone (Part 1)
TCS-8 Creative Sculpturing For Everyone (Part 2)
TMS-9 The Metric System (Part 1)
TMS-9 The Metric System (Part 2)

SPECIAL FILM PACKAGE OFFERS

Note: Specify Sound-Color Film ☐ 16mm or ☐ 8mm

The Router Film and five (5) 8mm Single-Concept Loops SRF-1A, 1B, 1C, 1D, and 1E.
[___ mm] $250.00 Value @ $230.00 P/P

The Dovetail Fixture Film and seven (7) 8mm Single-Concept Loops SRF-2A, 2B, 2C, 2D, 2E, 2F, and 2G.
[___ mm] $290.00 Value @ $270.00 P/P

The How To Hang A Door Film and five (5) 8mm Single-Concept Loops SDF-1A, 1B, 1C, 1D, and 1E.
[___ mm] $250.00 Value @ $230.00 P/P

The How To Use Measuring Tools Film and six (6) Single-Concept Loops SHT-1A, 1B, 1C, 1D, 1E, and 1F.
[___ mm] $270.00 Value @ $250.00 P/P

How To Use Saws Film and nine (9) 8mm Single-Concept Loops SHT-2A, 2B, 2C, 2D, 2E, 2F, 2G, 2H, and 2I.
[___ mm] $330.00 Value @ $310.00 P/P

How To Use Planes Film and nine (9) 8mm Single-Concept Loops SHT-3A, 3B, 3C, 3D, 3E, 3F, 3G, 3H, and 3I.
[___ mm] $330.00 Value @ $310.00 P/P

How To Use Hammers Film and eight (8) 8mm Single-Concept Loops SHT-4A, 4B, 4C, 4D, 4E, 4F, 4G, and 4H.
[___ mm] $310.00 Value @ $290.00 P/P

How To Use Hand Boring Tools Film and eight (8) 8mm Single-Concept Loops SHT-5A, 5B, 5C, 5D, 5E, 5F, 5G, 5H.
[___ mm] $310.00 Value @ $290.00 P/P

How To Use Chisels & Gouges Film and eight (8) 8mm Single-Concept Loops SHT-6A, 6B, 6C, 6D, 6E, 6F, 6G, 6H.
[___ mm] $310.00 Value @ $290.00 P/P

Creative Sculpturing For Everyone Film (Part 1) and seven (7) 8mm Single-Concept Loops SCS-7A, 7B, 7C, 7D, 7E, 7F, 7G. [___ mm] $290.00 Value @ $270.00 P/P

Creative Sculpturing For Everyone Film (Part 2) and four (4) 8mm Single-Concept Loops SCS-8A, 8B, 8C, 8D.
[___ mm] $230.00 Value @ $210.00 P/P

The Metric System Film (Part 1) and five (5) 8mm Single-Concept Loops SMS-9A, 9B, 9C, 9D, 9E.
[___ mm] $250.00 Value @ $230.00 P/P

The Metric System Film (Part 2) and seven (7) 8mm Single-Concept Loops SMS-9F, 9G, 9H, 9I, 9J, 9K, 9L.
[___ mm] $290.00 Value @ $270.00 P/P

SPECIAL SUPER 8MM TECHNICOLOR PROJECTOR AND FILM OFFER

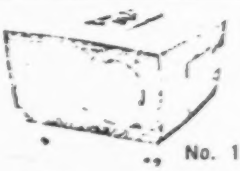
Technicolor 1000 Super 8 Sound-Color Projector LIST $349.95
and any full length Sound-Color Film of your choice LIST $150.00
TOTAL LIST PRICE $499.95
SPECIAL OFFER $450.00

(List Film No. desired here _____)

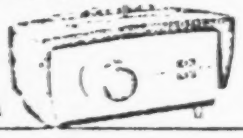
Technicolor 810A Super 8 Single-Concept Loop Projector LIST $149.50
and any five (5) Single-Concept Loops LIST $100.00
TOTAL LIST PRICE $249.50
SPECIAL OFFER $229.50

(List Five (5) Loop Nos. here _____ _____)

No. 1000 — A new 8mm sound-color projector uses cartridge-loaded film. Loading is fast and easy. Film is never touched. Shows complete film.



No. 1000



No. 810A

No. 810A — An 8mm single-concept loop projector without sound. All single phase loops are cartridge loaded.

Stanley Tools, Con't

SUPER 8mm. SINGLE-CONCEPT COLOR LOOPS IN CARTRIDGE @ $20.00 P/P

IMPORTANT: Specify Technicolor cartridge or Kodak cartridge

THE ROUTER

SRF-1A Router: Its Parts

SRF-1B Router: Bits & Inserting Them

SRF-1C Router: Setting Bits & Trial Cuts

SRF-1D Router: Finished Cuts & Accessories

SRF-1E Router: Procedures & Safety

THE DOVETAIL FIXTURE

SRF-2A Dovetail Fixture: Router Setup

SRF-2B Dovetail Fixture: Parts & Fixture Setup

SRF-2C Dovetail Fixture: Cutting the Joint

SRF-2D Dovetail Fixture: Cut Adjustments

SRF-2E Dovetail Fixture: Drawer Assembly

SRF-2F Dovetail Fixture: Rabbeted Drawer

SRF-2G Dovetail Fixture: Procedure & Safety

HOW TO HANG A DOOR

SDF-1A Hanging A Door: Selecting The Door

SDF-1B Hanging A Door: Cutting the Length

SDF-1C Hanging A Door: Planning & Beveling

SDF-1D Hanging A Door: Using Butt Templet

SDF-1E Hanging A Door: Installing Butts & Swinging The Door

HOW TO USE MEASURING TOOLS

SHT-1A Measuring Tools: Their Use

SHT-1B Measuring Tools: Common Types

SHT-1C Measuring Tools: Folding Wood Rule

SHT-1D Measuring Tools: Pull-Push & Long Steel Tape Rules

SHT-1E Measuring Tools: Special Types

SHT-1F Measuring Tools: Reading A Rule

HOW TO USE A SAW

SHT-2A Saws: Types

SHT-2B Saws: Ripsaw

SHT-2C Saws: Crosscut Saw

SHT-2D Saws: Compass, Keyhole & Coping Saws

SHT-2E Saws: Backsaw & Mitre Box

SHT-2F Saws: Classification

SHT-2G Saws: Sharpening

SHT-2H Saws: Safety

SHT-2I Saws: Picture Framer

HOW TO USE A PLANE

SHT-3A Planes: Their Purpose

SHT-3B Planes: Common Types

SHT-3C Planes: Block Planes

SHT-3D Planes: Rabbet & Other Planes

SHT-3E Planes: Their Parts

SHT-3F Planes: Making Adjustments

SHT-3G Planes: Using A Plane

SHT-3H Planes: Sharpening The Plane Iron

SHT-3I Planes: Special Types

HOW TO USE A HAMMER

SHT-4A Hammers: Their Purpose

SHT-4B Hammers: Common Types

SHT-4C Hammers: Upholsterer's Hammer & Other Types

SHT-4D Hammers: Parts Of A Claw Hammer

SHT-4E Hammers: Driving A Nail

SHT-4F Hammers: The Nail Set

SHT-4G Hammers: Removing A Nail

SHT-4H Hammers: Procedures & Safety

HOW TO USE HAND BORING TOOLS

SHT-5A Hand Boring Tools: Their Purpose

SHT-5B Hand Boring Tools: Common Types

SHT-5C Hand Boring Tools: Bits & Drills

SHT-5D Hand Boring Tools: Parts Of The Auger Bit

SHT-5E Hand Boring Tools: Parts Of The Brace Bitt

SHT-5F Hand Boring Tools: Using A Brace & Bit

SHT-5G Hand Boring Tools: Chucks & Ratcheting

SHT-5H Hand Boring Tools: Doweling Jig & Depth Gauge

HOW TO USE CHISELS AND GOUGES

SHT-6A Chisels & Gouges: Their Purpose

SHT-6B Chisels & Gouges: Common Types of Chisels

SHT-6C Chisels & Gouges: Their Parts

SHT-6D Chisels & Gouges: Using A Chisel

SHT-6E Chisels & Gouges: Types of Cuts

SHT-6F Chisels & Gouges: Cutting A Middle Half-Lap Joint

SHT-6G Chisels & Gouges: Sharpening A Chisel

SHT-6H Chisels & Gouges: Procedures & Safety

CREATIVE SCULPTURING (PART 1)

SCS-7A Creative Sculpturing: Types of Tools

SCS-7B Creative Sculpturing: Using The Tools

SCS-7C Creative Sculpturing: Profile Layout

SCS-7D Creative Sculpturing: Profile Shaping

SCS-7E Creative Sculpturing: 2-Dimensional (Part 1)

SCS-7F Creative Sculpturing: 2-Dimensional (Part 2)

SCS-7G Creative Sculpturing: 3-Dimensional

CREATIVE SCULPTURING (PART 2)

SCS-8A Creative Sculpturing: Abstracts

SCS-8B Creative Sculpturing: Useful Objects

SCS-8C Creative Sculpturing: Tree Branches

SCS-8D Creative Sculpturing: Finishes

THE METRIC SYSTEM

SMS-9A Metric System: History of Measurement

SMS-9B Metric System: Its Advantages

SMS-9C Metric System: Decimal Calculating

SMS-9D Metric System: English & Metric Lengths

SMS-9E Metric System: English & Metric Weight & Volume

SMS-9F Metric System: Short Lengths

SMS-9G Metric System: Long Lengths

SMS-9H Metric System: Weight

SMS-9I Metric System: Volume

SMS-9J Metric System: Review & Test — Units & Readings

SMS-9K Metric System: Review & Test — Prefixes

SMS-9L Metric System: Review & Test — General Use

THIS MATERIAL QUALIFIES UNDER TITLE II ELEMENTARY AND SECONDARY EDUCATION ACT AND N.D.E.A. TITLE III. SEE YOUR PRINCIPAL OR DEPARTMENT HEAD NOW.

TRANSPARENCIES

Set of 38 Transparencies for overhead projection cover correct usage of woodworking tools @ $29.50 per set

Overlay Transparency of Power Drill @ $6.50 Order No. PDTR1

SPECIAL SCHOOL SHOP OFFER

All six sets Filmstrips and Projector @ $70.00

FILMSTRIPS

ea. FS1 Set of Filmstrips (9) on Bench Planes @ $6.00 per set

ea. FS2 Set of Filmstrips (8) on Measuring, Testing and Marking Tools @ $6.00 per set

ea. FS3 Set of Filmstrips (9) on Chisels for Woodworking @ $6.00 per set

ea. FS4 Set of Filmstrips (9) on Boring Tools for Woodworking @ $6.00 per set

ea. FS5 Set of Filmstrips (9) on Hammers and Screw Drivers, Nails and Screws @ $6.00 per set

ea. FS6 Set of Filmstrips (9) on Hand Saws for Woodworking @ $6.00 per set

INSTRUCTION CHARTS

Sets of Instruction Charts @ $6.50 per set

SAFETY CHARTS

Sets of Stanley Safety Charts @ $4.00 per set

APRONS

..... each Heavy 8 oz. Duck Aprons 75¢ ea.

GOLDEN HAMMER AWARDS

See separate order form

BOOKS

The Stanley Book of Designs for Home Storage @ $2.50

"How to Work with Tools and Wood" Pocket Size No. 78-063 (revised) $1.25 each; (10 or more, 60¢ each)

Creative Light Wood Carving @ $4.50

Further Creative Light Wood Carving @ $4.50

Pictorial Woodwork Book 1 @ $3.50

Pictorial Woodwork Book 2 @ $3.50

Pictorial Woodwork Book 3 @ $5.50

Creative Log Sculpture @ $4.95

NEW WOODWORKING PROJECT PLANS

Series SS1, $1.00 for set of 10 projects

Series SS2, $1.00 for set of 10 projects

Series SS3, $1.00 for set of 10 projects

Series SS4, $1.00 for set of 10 projects

Series SS5, $1.00 for set of 10 projects

Series SS6, $1.00 for set of 10 projects

Series SS7, $1.00 for set of 10 projects

Series SS8, $1.00 for set of 10 projects

Series SS9, $1.00 for set of 10 projects

Series SS10, $1.00 for set of 10 projects

Series SS11, $1.00 for set of 10 projects

Series SS12, $1.00 for set of 10 projects

EARLY AMERICAN

Packet, Series A – 15 Early American Designs 25¢

Packet, Series B – 15 Early American Designs 25¢

Packet, Series C – 15 Early American Designs 25¢

Packet, Series D – 15 Early American Designs 25¢

CONSERVATIVE MODERN

15 Conservative Modern Furniture Designs $1.00

PATTERNS

Toy Patterns P1, 25¢ for set of six

Toy Patterns P2, 25¢ for set of six

Workshop Patterns P3, 25¢ for set of six

95 PLAN SET

95 Plan Set in Loose Leaf Binder @ $2.00

SPECIAL PLAN SET

Dream Workshop Plan Set @ $2.00

TOOL GUIDE

Copies of Tool Guide (less than 10 copies, 50¢ each; 10 or more 35¢ each)

FREE LITERATURE – TEACHING AIDS

No. 34 – Hand Tool Catalog (limit one)

No. T2 – Joy of Accomplishment Folder

No. T13 – Boys' Booklet: How To Choose And Use Tools

No. T24 – "Little Carpenter" booklet (for elementary students).

Sculpture with Surform Booklet

SUGGESTED LIST OF EQUIPMENT FOR:

Junior or Senior High School

Elementary School

FILMS

THE L. S. STARRETT COMPANY
Athol, Mass. 01331

Note: this material qualifies under title II Elementary and Secondary Education Act and N.D.E.A. Title III.

Instructional Films
Approximate Running Time — 12½ Minutes

Catalog No. 1717, "The Outside Micrometer", Super 8mm Sound-Color. Fits Technicolor 1000, 1300 and 1400 projectors. Packaged as a continuous loop in an instant loading cartridge (no rewinding required) and packed one in a box with contents clearly labeled on one end. Price each $150.00

Catalog No. 1716, "The Outside Micrometer", 16mm Sound-Color. Fits any regular 16mm sound projector. Packaged on a standard reel and packed one in a metal container with title clearly labeled on lid. Price each $150.00

SINGLE CONCEPT FILM LOOPS

Super 8mm color—4 minutes (approx.) running time each—for Technicolor 520 (formerly 510) 610, and 820 (formerly 810) projectors

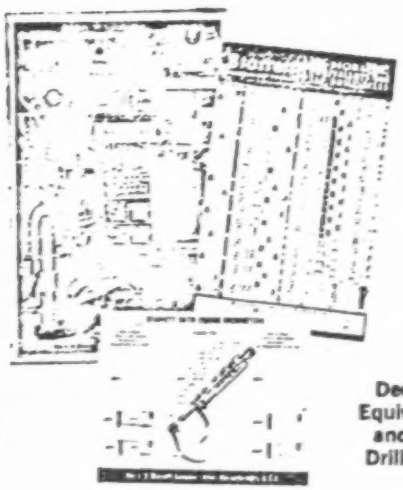
No. 1718-1 THE OUTSIDE MICROMETER: Main Parts	$20.00
No. 1718-2 THE OUTSIDE MICROMETER: How to Handle	$20.00
No. 1718-3 THE OUTSIDE MICROMETER: Screw Thread Measuring Principle	$20.00
No. 1718-4 THE OUTSIDE MICROMETER: Reading in Thousandths	$20.00
No. 1718-5 THE OUTSIDE MICROMETER: Reading in Three Steps (.001 in.)	$20.00
No. 1718-6 THE OUTSIDE MICROMETER: Reading in Ten-Thousandths	$20.00
No. 1718-7 THE OUTSIDE MICROMETER: Proper Care	$20.00
No. 1718-8 THE OUTSIDE MICROMETER: Test on Readings	$20.00

No. 1718 Series — Single Concept Loops
Running Time — 4 Minutes Each (Approx.)

Super 8mm Color. Fit Technicolor 520 (formerly 510), 610, and 820 (formerly 810) projectors. Each wound as continuous loop in an instant loading cartridge (no rewinding required) and packed one in a box with contents clearly labeled on one end. Price each $20.00

Cat. No.	Title/Synopsis
1718-1	"The Outside Micrometer: Main Parts" Points out and names principal parts — frame, anvil, spindle, etc. Demonstrates zero setting and tensioning adjustments.
1718-2	"The Outside Micrometer: How to Handle" Shows right way to hold, clean measuring faces, open rapidly, develop "feel". Explains ratchet stop, lock nut and friction thimble.
1718-3	"The Outside Micrometer: Screw Thread Measuring Principle" Uses cutaway micrometer to reveal 40 spindle threads per inch. Shows conversion to linear measurements through rotation of spindle and thimble. Explains decimal equivalents.
1718-4	"The Outside Micrometer: Reading in Thousandths" Explains .100" and .025" sleeve graduations; .001" thimble graduations; and use of reading line along sleeve.
1718-5	"The Outside Micrometer: Reading in Three Steps (.001 in.)" Tells how to read to tenths of an inch (.100"). . . . then add number of .025" lines visible on sleeve. . . . and finally read to the nearest thousandth of an inch (.001") on thimble.
1718-6	"The Outside Micrometer: Reading in Ten-Thousandths" Shows Vernier scale on sleeve and illustrates how a single line coincides with one on the thimble to give a ten-thousandths reading.
1718-7	"The Outside Micrometer: Proper Care" Demonstrates how to protect accuracy through correct handling and storage. Stresses protection from dirt and damage from other items carelessly placed in tool chest . . . plus cleaning and oiling.
1718-8	"The Outside Micrometer: Test on Readings" Presents various thimble settings along sleeve. Allows student about 5 seconds to decide each reading. Then gives correct answer to each in turn.

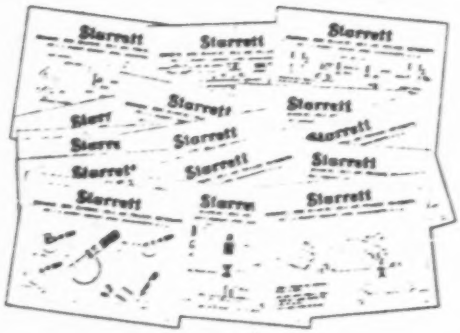
CHARTS, PUBLICATIONS REFERENCE MATERIALS



Tool Chart

Decimal Equivalents and Tap Drill Sizes

Micrometer Chart



Educational Charts. Also available as Student Notebook Pages.

Starrett Book for Student Machinists

Starrett charts, publications and reference materials help teach metalworking principles and practices to young people in schools and to adults in special classes and training programs. Many are offered in reasonable quantity at no charge and should be requested on school or company letterhead. Others are sold at cost and should be obtained by school or company purchase order.

WALL SIZE CHARTS

Tool Chart. Displays over fifty hand tools: Vernier gages, micrometers, steel rules, hole gages, protractors, V-blocks, test indicators, squares, level, punches, center and edge finders, scribers, pin vises, tap wrench, and radius, feeler and screw pitch gages. 26" x 41¼". Printed in two colors. Tinned top and bottom. Eyelet for hanging. Packed one in a mailing tube. Sent on letterhead request.

Decimal Equivalents and Tap Drill Sizes. Decimal Equivalents of 8ths, 16ths, 32nds, and 64ths of an inch; decimal equivalents of letter size drills (A-Z) and number size drills (1-80); and drill sizes for standard taps from #0-80 to 1½-12 (75% thread) and pipe taps from ⅛-27 to 4-8. 23" x 37". Printed in three colors. Tinned top and bottom. Eyelets for hanging. Packed one in a mailing tube. Sent on letterhead request.

Micrometer Chart. Features cut-away micrometer, showing principal parts and their relationship in assembly. Simplified text tells how to read in both thousandths and ten-thousandths of an inch. Four pictorial test readings. 22½" x 28½". Printed in two colors. Packed one in a mailing tube. Sent on letterhead request.

Educational Charts, Set No. 1205. Fifteen whiteprint charts help learners recognize tools, their principal parts and uses. Tools included: dial test indicator, surface gage, Vernier height gage and caliper, outside and inside micrometer, micrometer depth gage, drill point gage, hook rule, planer gage, combination square, trammels and hacksaw. 14¾" x 18¾". Packed one set of 15 in a mailing tube. Sent on letterhead request.

PUBLICATIONS

Student Notebook Pages, Cat. No. 1715. Identical to No. 1205 Educational Charts except 10½" x 8" in size and punched to fit a standard ring binder. Packed one set of 15 in an envelope. Desk set sent no charge on letterhead request. Price per set $0.50 in quantities.

The Starrett Book for Student Machinists, Cat. No. 1700. Written in clear, simple shop language, this basic text surveys working drawings, measuring practices, precision tools, transferring measurements, reading the micrometer and Vernier gages, fits, tolerance, bench work, filing, sawing, drilling, lathe work, screw threads, tapers, toolmak-

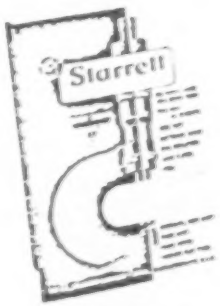
ing, jigs and fixtures, grinding, setting up machinery, mechanics, mathematical short cuts. 7-3/16" x 4-11/16". 181 pages. Over 200 diagrams, illustrations and reference tables. Approval copy sent on letterhead request and billed with 15 day return privilege. Price each $2.25.

"The Outside Micrometer." New audio-visual course shows how to read and use the outside micrometer. 12½ minute sound-color film supported by eight single concept loops. Ask for Bulletin No. 1206.

Bulletin 1203

Bulletin 1201

The Starrett Story



Catalog 27

How to Read, Use and Care for Micrometers and Vernier Gages, Bulletin No. 1203. Gives students both theory and practice in using inside, outside and depth micrometers. Also Vernier height and depth gages, Vernier caliper, gear tooth Vernier caliper and universal bevel protractor with Vernier. 7¾" x 5-5/16". 20 pages. Over 40 illustrations. Sent in reasonable quantity on letterhead request.

Helpful Information for Student Machinists, Bulletin No. 1201. Introduces students to the Starrett Book for Student Machinists, Training Aid Kit, Student Notebook Pages, "How to Read" booklet. Illustrates Starrett steel rule, combination square, center punch, calipers, divider and tool sets. Includes instructions on how to read the micrometer plus a handy table of decimal and millimeter equivalents of an inch. 6⅜" x 3¼" folding out to 12¾" x 9¾". Sent in reasonable quantity on letterhead request.

The Starrett Story. A brief history of the company founded over ninety years ago by an early mechanical genius, Laroy S. Starrett. It reviews the founder's boyhood years, business problems and successes, tools introduced, personal philosophy and community service. A fascinating story of ambition, perseverance, accomplishment and contribution to industry and fellow man. 6⅞" x 4⅝". 36 pages. Over 50 illustrations. Sent in reasonable quantity on letterhead request.

General Catalog No. 27. The reference book and buying guide of machinists, toolmakers, inspectors, engineers and technical specialists in industry. Main sections cover precision measuring tools, steel tapes, electronic gages, dial indicators, gage blocks, optical measuring tools, vises, hacksaws—band saws—hole saws, and precision ground flat stock. 7⅝" x 5¼". 545 pages. Desk copy sent on letterhead request.

REFERENCE MATERIALS

Training Aid Kit, Cat. No. 1701. Four slide charts showing how to read the outside micrometer, Vernier caliper, Vernier height gage, and Vernier protractor. Each tool printed full size on rugged card stock. The student adjusts each card by moving a die cut slide or disc to any desired setting and gets readings as though he were using the actual tool. "How to read" information printed on the back of each chart. Packed one set of 4 in an envelope. Desk set sent no charge on letterhead request. Price per set $1.00.

Decimal Equivalent Cards. Three types. Sent in reasonable quantity on letterhead request—order by size.

1. **Pocket Size.** Identical to wall size chart, but printed in two colors with figures on both sides. 3" x 5". Rounded corners.

2. **Desk Size.** For workbench or lid of tool chest. Identical to wall size chart, but printed in two colors. Approximately 6" x 9". Hole for hanging.

3. **Desk Size—Metric.** Converts decimals (0.01" to 1.00" in steps of .010") and common fractions (8ths, 16ths, 32nds and 64ths of an inch) to millimeters. Printed both sides in two colors. Approximately 6" x 9". Hole for hanging.

TECUMSEH PRODUCTS COMPANY
Parts Depot Division
Grafton, Wisconsin 53024

No. 29035 Tecumseh (Lauson Divison) 4 Cycle Engine – for use in teardown and re-assembly instruction. The factory reserves the right to choose the exact model.

No. 670137A Special Tool Kit – containing the specialized tools which a technician should use when working on Tecumseh 2 and 4 cycle engines.

No. 690141B Engine Slide Set with Script – containing 293 color 35 mm slides covering the theory and repair of of both 2 and 4 cycle engines.

No. 691813 Transaxle Slide Set with Script – containing 120 color 35 mm slides covering the theory and repair of transaxles.

No. 692795 Carburetor Chart Set – 2 large 17" x 21" wall charts covering the operation of both the diaphragm and float type carburetors.

No. 692796 Warranty Chart Set – 2 large 17" x 21" wall charts covering Tecumseh's actual warranty statements for both engines and power train components plus, in both cases, a list of the most frequent, not-warranty, causes of failure.

No. 710243 Tecumseh (Power Products Division) 2 Cycle Engine – for use in teardown and re-assembly instruction. The factory reserves the right to choose the exact model.

No. 794103 Tecumseh (Peerless Division) Transaxle – for use in teardown and re-assembly instruction. The factory reserves the right to choose the exact model.

No. 692799 Cut-a-way Engine Instructions Booklet Set – 10 identical booklets showing the steps necessary to create a cut-a-way engine. The use of this student handout, combined with the No. 29035 4 cycle engine, can make and interesting and informative class project.

TECUMSEH FACTORY SERVICE SCHOOL

WRITE FOR INFORMATION ABOUT CLASS SCHEDULES AND COSTS.

Teledyne Wisconsin Motor
1910 South 53rd Street
Milwaukee, Wisconsin 53246

Brochure

Wisconsin Heavy-Duty Engines, 6-65.9 H.P.

Manuals

Starting and Operating Instructions (Issue MM-310)

Single Cylinder--Four Cycle
Models ACN, BKN, AENL, AGND

Starting and Operating Instructions (Issue MM-309-A)

Single Cylinder--Four Cycle
Models S-7D, S-8D, TRA-10D, TRA-12D, S-10D, S-12D, S-14D

Starting and Operating Instructions (Issue MM-342)

Two Cylinder--Four Cycle
Models THD and TJD

Chart

Wisconsin Engines Repair Specifications

6-65.9 H.P. Built Before May 1970

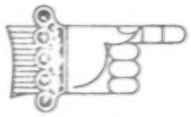
All publications listed above are free

TIMKEN ROLLER BEARING COMPANY
1835 Dueber Avenue S. W.
Canton, Ohio 44706

☐ All films are 16mm, color, sound, (optical track).

☐ There are No Restrictions on showing.

☐ Actual cost to user — return postage only.



"BIG TIM"
11 min. **1950**

Cartoon film on roller freight featuring a locomotive named "Big Tim". Shows the advantages of roller freight.

BUCYRUS SHIPPING CENTER
12 min. **1969**

Describes and illustrates the computerized shipping operations at the Timken Company, Bucyrus, Ohio shipping center. Shows how bearing products are stored, picked, packed and shipped to provide the "World's Best Service". Emphasis is placed on efficiency, accuracy, and speed, and the resulting economy for customers.

"LET 'ER ROLL"
50 min. **1962**

A film describing proper care and maintenance of tapered roller bearings in fleet vehicles.

"SO THE REPLACEMENT IS RIGHT"
25 min. **1970***

A motion picture about the authorized bearing specialist. Directed toward an audience including corporate management, plant management, purchasing, controllers, and the bearing specialist's sales and backup personnel.

*Currently in Production

MAINTAINING QUALITY ON TIMKEN® TQO BEARINGS
23½ min. **1964**

A film showing the proper maintenance procedures for maintaining bearings used by mill operators everywhere. A must so that a mill operator can eliminate costly shutdowns.

"TIMKEN BEARING EQUIPPED — YOUR KEY TO BETTER MAINTENANCE"
28 min. **1965**

A new color film describing the general care and maintenance of tapered roller bearings in industrial applications.

"PASSPORT TO PROGRESS"
22 min. **1967**

A film designed to show the makeup of a truly international company manufacturing bearings in seven countries. Virtually a non-technical movie. Filmed on location, it shows not only the manufacturing facilities but the communities and countryside in countries where manufacturing plants are located. Designed to be of interest to a broad, general, audience in addition to audiences having technical interest.

"NO TROUBLE AT ALL"
20 min. **1966**

A color film telling the behind-the-scenes story of the special care and techniques that go into design and manufacture of Timken bearings . . . the hidden product that keeps America on the go with "No Trouble At All".

"QUITE NATURALLY"
35 min. **1962**

An 80% animated film describing basic tapered roller bearing principles, designs, and applications. Designed for engineers and engineering students but also of interest to machine operators, maintenance men, etc.

Timken Roller Bearing, Con't

Metric Conversion Pocket Cards
16 mm motion pictures
Shop manual for Timkin - describes working on and with roller bearings

Pamphlets

"Quite Naturally" - from movie describing roller bearing use, principles and design.

"So the Replacement is Right" - from movie describing the bearing specialist

"Timkin Fine Alloy Steel"
"No Trouble at All"
"Timkin Company in Profile"
} All literature on the Timkin Roller Bearing Company.

UNION CARBIDE CORPORATION
Consumer Products Division
270 Park Avenue
New York, New York 10017

AFP-1512 - 8 1/2" x 11" B&W 8-cyl. chart - The Engine Cooling System.
AFP-1678 - 25" x 29" Color 6-cyl. chart - The Engine Cooling System.
AFP-1684 - 8 1/2" x 11" B&W 6-cyl. chart - The Engine Cooling System.
AFP-2226 - Technical Data - "Prestone" Coolant in High Performance Engines

Uniroyal
Public Relations Department
Rockefeller Center
1230 Avenue of Americas
New York, New York 10020

Pamphlets — All are free

News Release: Tire Inflation Pressure
News Release: How's Your Knowledge of Tires?
Consumer Tire Guide
History of the Automobile Tire
Rubber - That Amazing Polymer
What is Rubber
Natural Rubber
Story of Natural Rubber

Director-Public Relations
United States Steel Corporation
71 Broadway
New York, N. Y. 10006

Write for the following free brochures:

- Motion Pictures for School Grades 7 through 12
- Motion Pictures for Business and Community Groups, Trade Associations, Colleges and Television
- Reading List of Publications and Catalog of Visual Aids

Vickers Division of
Sperry Rand Corporation
P. O. Box 302
Troy, Michigan 48084
Att.: E. J. Doucet

Mobile Hydraulics Manual

Complete book on hydraulics used on portable machinery such as farm tractors, backhoes, bulldozers and lift trucks. Covers basic hydraulics and some specific uses. 180 pages. Color illustrations. 1968. Single copy free. Request on school letterhead.

Practical Hydraulics

Comprehensive coverage of basic hydraulic principles, design and uses. Includes trouble shooting hints. 36 pages, illustrated. 25¢ each in lots of 5 or more.

Industrial Hydraulics Manual

In 304 pages and over 285 color coded illustrations, the new industrial hydraulics manual explores the fascinating world of fluid power. The Why's and how's of industrial hydraulics are spelled out in simple and concise language. The manual investigates the fundamental principles of pressure and flow, describes the operation of basic hydraulic components, and shows how these components combine to do their many jobs. $3.95 each.

Slides

35 mm slides of the 310 illustrations in the "Industrial Hydraulics Manual" are available as a set in a storage case. $125.00/set.

Vickers Portable Hydraulic Trainer

Complete teaching aid stand with all components for teaching hydraulics. May be used by instructor as a demonstrator or by students as a trainer. Send for free brochure with complete details. $2,900.00 FOB Bensenville, Illinois.

VICKERS (continued)

Film No. 1
BASIC HYDRAULICS
Describes basic hydraulic principles and applications, including definitions, fluid behavior and flow characteristics. Running time, 35 min.

Film No. 2
VANE PUMPS
Describes types of vane pumps, their construction and operation. Running time, 23 min.

Film No. 3
ACTUATORS
Film explores the types, operational features and applications of cylinders and motors. Running time, 18 min.

Film No. 4
PRESSURE CONTROL VALVES
Describes the major types of pressure control valves and their operation and use in various circuits. Running time, 33 min.

Film No. 5
DIRECTIONAL CONTROL VALVES
Describes types of directional valves, and their operation and application. Running time, 25 min.

Film No. 6
FLOW CONTROL VALVES
Discusses the types of flow controls and their uses in typical circuits. Running time, 23 min.

Film No. 7
HYDROSTATIC TRANSMISSIONS
Describes hydraulic drives in which a pump and motor transfer rotary power by means of fluid under pressure. Running time, 15 min.

Film No. 8
CIRCUITS
This film brings together all of the hydraulic components covered in the other films, and illustrates the many possible circuit variations. Running time, 15 min.

Ordering information

RENTAL PLAN—All eight films in the series can be rented individually or as a package. Check on the Order Card the "preferred date wanted", and the "alternate date wanted" in case the films are unavailable for your preferred date. Because of film rental commitments, we can allow you to keep the films no longer than three days.

Rental prices are $25.00 per each film, and $150.00 for the entire set. Please make your check or purchase order payable to Vickers Division of Sperry Rand Corporation.

PURCHASE PLAN—The eight films can be purchased individually or as a package. Should you decide to purchase after screening the films, your rental fee will apply towards the purchase price.

Purchase prices are $125.00 for each film and $900.00 for the entire set. Prices include Plio-Magic reels, shipping containers, and booklets.

BOOKLETS—All films, rented or purchased, come with 25 review booklets each. Extra copies of the booklets are available at the following prices:

Quantity	Price
1-10	.25 each
11-50	.20 each
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Please indicate on the card how many extra copies you will need.

Send the order card and your check or purchase order to:

Vickers Division of
Sperry Rand Corporation
P.O. Box 302
Troy, Michigan 48084
Attn: E. J. Doucet

WESTERN WOOD PRODUCTS ASSOCIATION
Yeon Building
Portland, Oregon 97204

PR MATERIAL 1972

TP Teachers Packet..."Our Forests and You" - contains the following Conservation literature:

P5	Facts About Western Woods - 32 pp., 8½x11"
*P5-16	"The Lumber Contents of a Douglas Fir Log" - Chart showing the position in a log from which the principal items of lumber are cut. 1 p., 8½x11"
*PR-1	WWPA is a Western Forest Products Trade Association That...
*PR-3	The Good Lord's Made All The Land He's Ever Going to Make...
*PR-4	There Is Nothing Wrong With Growing Timber
*PR-5	The Wilderness: Just How Much Is Wild?
*PR-6	A Vital Aspect of Forest Ecology...Clearcutting
*F-11	The Forester In The Plaid Shirt
*F-12	Patch From The Blue
*F-13	Our Forest Bank Account

Single copies of Teachers Packet available to teachers only.

*These items available in classroom quantities at no cost.

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